Separation of indium from zinc... S/032/62/028/002/004/037
B101/B110

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University); Khimiko-tekhnologicheskiy institut g. Sofiya (Sofia Institute of Chemical Technology)

Card 3/3

ALIMARIN, I.P.; TSINTSEVICH, Ye.P.; BURLAKA, V.P.

Study of the behavior of indium, zinc, and cadmium complex compounds in an ammonium carbonate solution using ion-exchange resins. Zav.lab. no.11:1287-1290 '59. (MIRA 13:4)

1.Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Indium compounds) (Zinc compounds) (Cadmium compounds)

S/153/60/003/02/06/034
B011/B003

5.5700

AUTHORS: Tsintsevich, Ye. P., Gorokhova, A. N.

TITLE: Separation of Gallium From Copper and Nickel by Means of the Method of Ion Exchange

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1960, Vol. 3, No. 2, pp. 245-250

TEXT: In the present paper the authors continue the investigation of the behavior of gallium with various complex-forming substances, particularly with ammonium carbonate. They applied the method of ion exchange. They intended to clarify the possibilities of using the soluble carbonate compound of gallium for the separation of the latter from nickel and copper. For this reason the authors examined the behavior of gallium with $(NH_4)_2CO_3$ on the cationite of type KU-2 (in NH_4-form) and on the anionite of type EDE-10P (in CO_3-form). The possibility of applying the gallium-carbonate complex for the separation

Separation of Gallium From Copper and Nickel by Means of the Method of Ion Exchange

S/153/60/003/02/06/034
B011/B003

of other elements by means of ion exchange was proven by the authors. Particularly the methods of the quantitative separation of gallium from nickel (Table 4) and of gallium from copper were elaborated (Table 6) in ratios of Ga:Ni and Ga:Cu of 1:1 to 1:10,000 in the presence of $(NH_4)_2CO_3$ and NH_4OH. Gallium can be separated from zinc, nickel and copper in the presence of a 2 M solution of $(NH_4)_2CO_3$ under the addition of a small ammonium amount by means of the ion-exchange method on anionite EDE-10P (CO_3-form). The absorption spectra of the reagent gallion applied for the colorimetric determination of gallium as well as the complex compound of gallium with gallion are shown in Fig. 1. The calibration curve for the determination of gallium by means of gallion is represented in Fig. 2. The distribution of gallium on ionites in the presence of $(NH_4)_2CO_3$ is given in Table 1. The behavior of gallium on the anionite EDE-10P (in CO_3-form) in the presence of $(NH_4)_2CO_3$ under dynamic conditions is indicated in Table 2. The distribution coefficients of nickel on ionites in the presence of $(NH_4)_2CO_3$ under static conditions are listed in Table 3. There are 2 figures, 6 tables, and 12 references,

Card 2/3

Separation of Gallium From Copper and Nickel by Means of the Method of Ion Exchange

S/153/60/003/02/06/034
B011/B003

8 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova; Kafedra analiticheskoy khimii (Moscow State University imeni M. V. Lomonosov; Chair of Analytical Chemistry)

SUBMITTED: October 1, 1959

Card 3/3

STANCHEVA, St.; ALIMARIN, I.P.; TSINTSEVICH, Ye.P.

Ion exchange separation of indium from zinc in solutions containing sulfate ions. Zav.lab. 28 no.2:156-158 '62. (MIRA 15:3)

1. Moskovskiy gosudarstvennyy universitet i Khimiko-tekhnologicheskiy institut, Sofiya.
(Ion exchange resins) (Indium--Analysis) (Zinc--Analysis)

ALIMARIN, I.P.; TSINTSEVICH, Ye.P.; LEONOVA, T.N.

Ion-exchange study of the behavior of indium in the presence of different organic complex-forming compounds. Vest. Mosk. un. Ser. 2: Khim. 15 no.6:33-37 N-D '60. (MIRA 14:2)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.
(Indium)

TSINTSEVICH, Ye.P.; IVANOV, V.M.; TSABEL', V.A.

Photometric determination of gallium in the presence of oxalate ions by means of 1-(2-pyridylazo)-resorcinol. Vest. Mosk. un. Ser. 2: Khim. 18 no.5:54-56 S-O '63. (MIRA 16:11)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.

TSINTSEVICH, Ye.P.; ALIMARIN, I.P.; MOSEVA, L.I.; BAZANOVA, M.P.

Cation exchange study of the behavior of indium as dependent on the concentration of oxalate ions and of the pH of solution. Vest. Mosk. un. Ser.2: Khim. 18 no.4:70-72 Jl-Ag '63. (MIRA 16:9)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.
(Indium) (Ion exchange resins) (Sodium oxalates)
(Hydrogen-ion concentration)

TSINTSEVICH, Ye. P.; GOROKHOVA, A.N.

Separating gallium from copper and nickel by ion exchange.
Izv.vys.ucheb.zav.; khim.i khim.tekh. 3 no.2:245-250 '60.
(MIRA 14:6)

1. Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova, kafedra analiticheskoy khimii.
(Gallium--Analysis)
(Copper--Analysis)
(Nickel--Analysis)

ALIMARIN, I.P.; TSINTSEVICH, Ye.P.; GOROKHOVA, A.N.

Separation of gallium form zinc in a solution of ammonium carbonate by means of ionites. Zav.lab. 26 no.2:144-145 '60.
(MIRA 13:5)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Gallium--Analysis) (Zinc--Analysis)

5.5700

66964

SOV/32-25-11-2/69

AUTHORS: Alimarin, I. P., Tsintsevich, Ye. P., Burlaka, V. P.

TITLE: Investigation of the Behavior of Complex Compounds of Indium, Zinc, and Cadmium in Ammonium Carbonate Solution on Ion Exchange Resins

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 11, pp 1287-1290 (USSR)

ABSTRACT: The behavior of indium in an ammonium carbonate solution used as a complex-forming substance was investigated by ion exchange, and the results were utilized for the separation of indium from zinc, cadmium, and aluminum. No indium-carbonate complexes have hitherto been used in ion exchange chromatography. Indium perchlorate, zinc sulfate, cadmium sulfate, and aluminum chloride were used in these experiments. The indium concentration was determined gravimetrically (by the oxyquinoline method), volumetrically by complexometric titration using the indicator eriochrome black T (Ref 2), or by means of the indicator 4-(α-pyridylazo) resorcinol suggested by A. I. Busev and N. A. Kanayev. Cadmium was determined as anthranilate (Ref 3) or polarographically (Ref 4), zinc gravimetrically (phosphate method) or polarographically, and aluminum by precipitation with

Card 1/3

Investigation of the Behavior of Complex Compounds of Indium, Zinc, and Cadmium in Ammonium Carbonate Solution on Ion Exchange Resins

oxyquinoline or colorimetrically. The cation exchange resin KU-2 and the anion exchange resin EDE-10 P were used as sorbents. Absorption spectra taken in the 220-300 mμ wave range on the SF-4 apparatus showed that a soluble compound is formed from $In(ClO_4)_3$ and $(NH_4)_2CO_3$. Distribution coefficients (φ) on the KU-2 cation exchanger (in the NH_4 form) calculated according to equation of Tompkins and Mayer (Ref 5) showed that the indium-carbonate complex ion bears a negative charge, which was confirmed by experiments performed with the anion exchanger EDE-10 P (in the CO_3 form). This fact was utilized to separate indium from zinc and cadmium. Indium was separated from zinc on the anion exchanger EDE-10 P (in the CO_3 form) in the ratios 1:17 to 1:1000. The indium complex on the resin remained absorbed, was then eluted with acetic acid, and determined as mentioned above (Table 1). The separation of indium from small amounts of cadmium was performed on the cation exchanger KU-2 (in the NH_4 form) in ratios In:Cd = 20:1 to 1000:1. Cadmium

Card 2/3

66964

Investigation of the Behavior of Complex Compounds of Indium, Zinc, and Cadmium in Ammonium Carbonate Solution on Ion Exchange Resins SOV/32-25-11-2/69

remained absorbed, was then eluted with nitric acid, and finally determined (Table 2). Indium could be separated from aluminum in ratios 4:1 to 1000:1 on the resin KU-2 as well, indium being eluted with an ammonium carbonate solution, and aluminum with 2n alkali (Table 3). There are 4 figures, 3 tables, and 5 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

Card 3/3

TSINTSEVICH, Ye.P.; ALIMARIN, I.P.; MARCHENKOVA, L.F.

Behavior of gallium and aluminum during ion exchange in the presence of some complex-forming substances. Vest.Mosk.un.Ser. mat.,mekh.,astron.,fiz.khim. 13 no.3:221-227 '58. (MIRA 12:4)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.
(Gallium) (Aluminum) (Ion exchange)

TSINTSEVICH, YE. P.

137-58-1-2149

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 292 (USSR)

AUTHOR: Tsintsevich, Ye. P.

TITLE: Ion Exchange as a Method of Separating Zinc From Aluminum (Otdeleniye tsinka ot alyuminiya metodom ionnogo obmena)

PERIODICAL: Vestn. Mosk. un-ta. Ser. matem., mekhan., astron., fiz., khimii, 1957, Nr 1, pp 150-155

ABSTRACT: The cationite "SBS", prewashed from Fe by 10 percent HCl and water to negative reaction to Cl^-, and the ability of Al to form complex compounds are employed to separate Zn from Al. The tartrate complex of Al passes through the column, without being adsorbed by the cationite, in the form of a negatively charged anion. In an ammonia medium, in the presence of tartaric acid, the stable, positively charged, complex cation of Zn ammoniate, when passed through the column with SBS in the H form or the NH_4 form, is captured in its entirety by activated groups in the resin. Sulfosalicylic and oxalic acids serve as complex formers to separate Zn from Al. It is also possible to use pyrogallol and glycerol, but they are less desirable because of their ready oxidizability and high viscosity. Addition of small amounts of

Card 1/2

137-58-1-2149

Ion Exchange as a Method of Separating Zinc From Aluminum

glycerol to solutions of Al salts prevents precipitation of hydroxides in aqueous ammonia media (pH= 9-10).

1. Zinc—Separation 2. Ion exchange—Applications

V. P.

Card 2/2

TSINTSEVICH, Ye. P.

Category: USSR/Analytical Chemistry - Analysis of inorganic substances. G-2

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 30988

Author : Alimarin I. P., Tsintsevich Ye. P.
Inst : not given
Title : Use of Chromatographic Method for the Separation of Gallium from other Elements. Separation of Gallium and Zinc.

Orig Pub: Zavod. laboratoriya, 1956, 22, No 11, 1276-1279

Abstract: Description of a method for quantitative separation of Ga from Zn by means of ion-exchange (SBS resin), which is based on utilization of complex compounds of Ga and Zn. of different degree of stability (with Complexon III, tartaric, oxalic and sulfo-salicylic acid); separation of Ga and Zn from Fe and Cu has been carried out.

Card : 1/1

-23-

TSINTSEVICH, Ye. P.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757110011-7"

5(2)

AUTHORS: Tsintsevich, Ye.P., Alimarin, I.P. and Marchenkova, L.F. SOV/55-58-3-27/30

TITLE: The Behavior of Gallium and Aluminum Under Ion Exchange in Presence of Some Complex-Forming Substances (Povedeniye galliya i alyuminiya v usloviyakh ionnogo obmena v prisutstvii nekotorykh kompleksoobrazuyushchikh veshchestv)

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya matematiki, mekhaniki, astronomii, fiziki, khimii ,1958,Nr 3,pp 221-227 (USSR)

ABSTRACT: The authors investigated the behavior of Ga^{3+} and Al^{3+} in presence of tartaric acid and malic acid under static conditions for acid pH - values. It was stated that the separation of them is not possible in presence of the mentioned acids. A separation of gallium and aluminum by ion exchange proved to be possible in presence of oxalic acid for pH 4.0 as well as in some other cases.

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The Behavior of Gallium and Aluminum Under Ion Exchange in Presence of Some Complex-Forming Substances SOV/55-58-3-27/30

There are 4 figures, 6 tables, and 5 references, 3 of which are Soviet, 1 German, and 1 Swiss.

ASSOCIATION: Kafedra analiticheskoy khimii (Chair of Analytical Chemistry)

SUBMITTED: July 6, 1957

Card 2/2

TSINTSEVICH, Ye. P.

AUTHOR: Tsintsevich, Ye.P., Nazarova, G.Ye. 32-9-12/43

TITLE: The Separation of Gallium from Lead and Cadmium According to the Method of Ion Exchange (Otdeleniye galliya ot svintsa i kadmiya metodom ionnogo obmena)

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol.23, Nr 9, pp. 1068-1070 (USSR)

ABSTRACT: By the method of ion exchange the separation of gallium from lead was attained by the use of CH_3COONH_4 as an "eluent" (washed out product). The separation of gallium from lead was carried out with the SBS cationite in NH_4-form in the presence of sulphosalicylic and gallus acid at p_H = 9 --10. In the presence of sodium tartrate the separation of the elements mentioned is possible only in the case of p_H = 8,5 - 9,0. The possibility of separating gallium from cadmium with an ion exchange resin in NH_4-form at p_H = 9 - 10 by using tartaric-, sulphosalicylic- and oxalic acid as well as trilon B was found to exist. It is shown that by using successive "eluation" (washing out process) and making use of the amphoteric properties of gallium, the latter can be separated from Pb, Cd,

Card 1/2

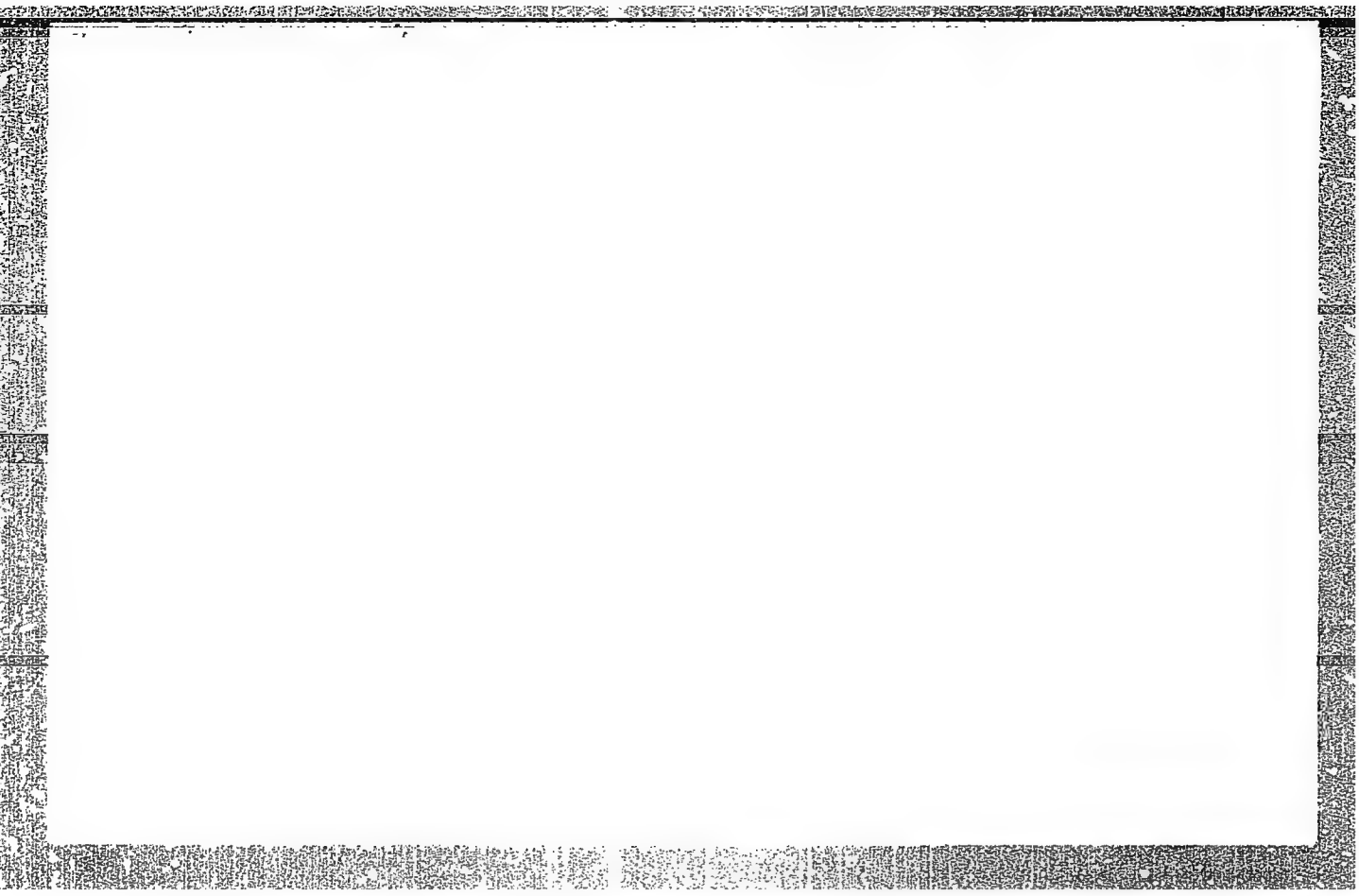
The Separation of Gallium from Lead and Cadmium According to the Method of Ion Exchange 32-9-12/43

Fe and Cu. There are 1 figure, 4 tables, and 7 references, 5 of which are Slavic.

ASSOCIATION: Moscow State University imeni M.V.Lomonosov (Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova)

AVAILABLE: Library of Congress

Card 2/2



APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757110011-7"

TSINTSEVICH, Ye.P.

Separation of zinc from aluminum by the ion exchange method.
Vest.Mosk.un. 12 no.1:150-155 '57. (MLRA 10:8)

1.Moskovskiy universitet, Kafedra analiticheskoy khimii.
(Zinc) (Aluminum) (Ion exchange)

ALIMARIN, I.P.; TSINTSEVICH, Ye.P.

Using the chromatographic method for isolating gallium from other elements. Zav.lab.22 no.11:1276-1279 '56. (MLRA 10:2)

1. Moskovskiy gosudarstvennyy universitet.
(Chromatographic analysis) (Gallium) (Ion exchange)

SHISHKOVA, L.G.; ALIMARIN, I.P.; TSINTSEVICH, Ye.P.

Anion-exchange study of gallium behavior in hydrochloric alcohol solutions. Vest. Mosk. un. Ser. 2:Khim. 20 no.4: 76-77 Jl-Ag '65. (MIRA 18:10)

1. Kafedra analiticheskoy khimii Moskovskogo gosudarstvennogo universiteta i Gorno-geologicheskiy institut, Sofiya.

GOROKHOVA, A.N.; ALIMARIN, I.P.; TSINTSEVICH, Ye.P.

Ion-exchange behavior of gallium on a strong acid cation exchanger in a medium of hydrochloric acid - organic solvent (isopropyl alcohol), ketones, dioxane. Zhur.neorg.khim. 11 no.1:191-194 Ja '66. (MIRA 19:1)

1. Submitted December 14, 1964.

DZIDZIGURI, A.A., TSINTSADZE, Yu.D.

Regulating mine fans in a centralized ventilation system. Trudy Inst. met. i gor. dela AN Gruz. SSR no. 8:271-284 '57. (MIRA 11:8)
(Mine ventilation)
(Fans, Mechanical)

TSINTSIBADZE, A.I.

3-2410 (2205, 2705, 1559)

315h2
S/627/60/002/000/027/027
D299/D304

AUTHORS: Mandzhavidze, Z. Sh., Roynishvili, N. N., Chukovani, G. Yo., Kozlov, A. A., Kotlyarevskiy, D. M., Tatalash-vili, N. G., and Tsintsibadze, A. I.

TITLE: Study of penetrating showers at an altitude of 2000 m above sea level

SOURCE: International Conference on Cosmic Radiation. Moscow, 1959. Trudy. v. 2. Shirokiye atmosfernyye livni i kas-kadnyye protsessy, 338-341

TEXT: The properties of unstable heavy particles were studied by means of a magnetic cloud chamber with lead absorbers. Among 8700 nuclear interactions, 139 cases of decay of neutral particles were observed, as well as 29 decay processes of charged strange parti-cles. In addition, 11 decay processes, described by the authors in an earlier work, are also included in the study. As a result of the investigation of neutral particles, 45 V^0-shaped tracks were iden-

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S/627/60/002/000/027/027
D299/D304

Study of penetrating ...

tified as decays of Λ^0-hyperons, and 38 - as θ^0-mesons. Fifty-six of the remaining V^0-shaped tracks could not be identified. Out of 40 $V^{\pm}$-particles, 1 was interpreted as τ-meson decay, 7 could be interpreted as K-meson decay and 2 - as Σ-hyperons. The other particles could not be interpreted by decay-dynamics only; for their interpretation considerations had to be employed which proceed from the considerable difference in the lifetime of hyperons and K-mesons respectively. In Solov'yev's work (Ref. 3: preprint O.I.Ya. I.) it is shown that for strong interactions involving strange particles, there are no obvious theoretical assumptions which would require conservation of parity. If such interactions are not invariant with respect to space inversion, one should expect the appearance of hyperon polarization in the plane of generation. These considerations were used as a basis for constructing the angular distribution protons of the decay of Λ^0-particles with momenta below 800 Mev./c. Further, the authors investigated the lifetime of

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3/627/60/002/000/027/027
D299/D304

Study of penetrating ...

Λ^0-particles by 2 methods. By the first method, they obtained for the mean lifetime the value

$$\tau_{\Lambda^0} = (2{,}83 \begin{smallmatrix} + 2{,}32 \\ - 0{,}99 \end{smallmatrix}) \cdot 10^{-10} \text{ sec}$$

The second method yielded

$$\tau_{\Lambda^0} = (3{,}02 \begin{smallmatrix} + 1{,}14 \\ - 0{,}72 \end{smallmatrix}) \cdot 10^{-10} \text{ sec}$$

Further, an attempt was made to determine the lifetime of Σ-hyperons. Earlier results in this respect are in disagreement. It was found that 13 of the decay processes of charged particles can be considered as $\Sigma^{\pm}$-hyperons. The lifetime of 9 of these particles is

Card 3/4

3

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D299/D304

Study of penetrating ...

$$\tau_{\Sigma^{\pm}} = \leqslant (0{,}57 \pm \begin{matrix} 0{,}36 \\ 0{,}16 \end{matrix}) \cdot 10^{-10} \text{ sec}$$

There are 1 table and 9 references: 3 Soviet-bloc and 6 non-Soviet-bloc. The references to the English-language publications read as follows: S. Hayakawa. Phys. Rev., 108, 1533, 1957; D. A. Glaser. Ann. International Conference on High Energy Physics at CERN, 1958; I. Snayder, W. Y. Chang and I. G. Gupta. Phys. Rev., 106, 149, 1957.

ASSOCIATION: Institut fiziki AN Gruz.SSR (Physics Institute AS Georgian SSR)

Card 4/4

TSITSIN, I. A.

TSITSIN, M. A.

Sverdlovsk, Metallurgizdat, 1953
1076 p. illus., diagrs., tables.
Bibliographical material throughout.

N/5
664
.L7

TSINTSIN, N. V;CHERKASSKIY, Ye. S.

Activated creolin..Doklady Akad. nauk SSSR 84 no. 3:653-654
21 May 1952. (CIML 22:3)

1. Academician for Tsitsin.

USSR/ Agriculture - Exhibition

Card 1/1 ; Pub. 86 - 1/36

Authors ; Tsintsin, N. V., Academician

Title ; All the people view the accomplishments of socialistic agriculture

Periodical ; Priroda 43/8, 3 - 14, Aug 1954

Abstract ; A description is given of the exposition opened on August 1, 1954 at Moscow, to show the people the advances made in scientific farming and the mechanization of agriculture. Eight-hundred collective farms, 300 state farms and 200 machine-tractor stations were represented. There were exhibits of associated lines, such as stock raising and fish breeding. The article is mainly devoted to the description of the buildings and exhibits. Illustrations.

Institution ; ....

Submitted ; ....

ACCESSION NR: AP4029195 S/0078/64/009/004/1015/1016

AUTHOR: Tsintsius, V. M.; Yudovich, Ye. Ye.

TITLE: Vapor pressures of vanadium dibromide and diiodide

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 4, 1964, 1015-1016

TOPIC TAGS: vanadium dibromide, vanadium diiodide, vapor pressure, vapor tension, flux method, sublimation, heat of sublimation, entropy of sublimation, V-Br bond energy, V-I bond energy, vanadium bromine bond energy, vanadium iodine bond energy, thermodynamic characteristic

ABSTRACT: The vapor tension of vanadium dibromide and vanadium diiodide was investigated by the flux method (S. A. Shchukarev, I. V. Vasil'kova, M. A. Oranskaya, V. M. Tsintsius, N. S. Subbotina. Vestn. LGU, No. 16, vy*p. 3, 125 (1961)) using argon as the gas-carrier. Based on the data obtained, the following thermodynamic characteristics of the process of vanadium dibromide and vanadium diiodide sublimation were determined: in the 800-905 C temperature interval, $\Delta H_{subl}[VBr_2] = 45 \pm 4$ kcal/mol; $\Delta S_{subl}[VBr_2] = 27 \pm 2$ joules;

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ACCESSION NR: AP4029195

in the 850-1016 C temperature interval, $\Delta H_{subl}[VI_2] = 44 \pm 4$ kcal/mol and $\Delta S_{subl}[VI_2] = 28 \pm 2$ joules

The V-Br and V-I bond energies were also calculated: $E_{V-Br} = 107$ kcal, $E_{V-I} = 96$ kcal. Orig. art. has: 2 tables.

ASSOCIATION: None

SUBMITTED: 16Sep63 DATE ACQ: 29Apr64 ENCL: 00

SUB CODE: GC, GP NO REF SOV: 004 OTHER: 003

Card 2/2

SHCHUKAREV, S.A.; ORANSKAYA, M.A.; TSINTSIUS, V.M.

Thermal dissociation of gold chlorides. Zhur.neorg.khim. 1 no.5: 881-886 My '56. (MLRA 9:10)

(Gold chlorides)

TOLMACHEVA, T.A., TSINTSIUS, V.M.; ANDRIANOVA, L.V.

Vanadium trioiodide. Zhur.neorg.khim. 8 no.3:553-559 Mr '63.
(MIRA 16:4)

(Vanadium iodides)

S/078/63/008/003/001/020
B117/B186

AUTHORS: Tolmacheva, T. A., Tsintsius, V. M., Andrianova, L. V.

TITLE: Study of vanadium triiodide

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 8, no. 3, 1963, 553-559

TEXT: The formation enthalpy of vanadium triiodide was studied by the solubility method in a calorimeter at 25°C using 0.4 N alkali solution with 0.018 N hydrogen peroxide. An average of $\Delta H = -143.0 \pm 1.0$ kcal/mole was found for the system $VI_3 + 4KOH + 2H_2O_2$. The enthalpy of the system $1/2\ V_2O_5 + 3KI + KOH + H_2O_2$ was also determined. Its mean value was -7.7 ± 0.1 kcal/g-atom vanadium. The values found for the solubility were used to calculate the formation enthalpy of solid vanadium triiodide. It was -67 ± 2 kcal/mole for formation from metallic vanadium and solid iodine, and -89 ± 2 kcal/mole for formation from metal and gaseous iodine. The entropy of formation of vanadium triiodide from metal and gaseous iodine was calculated: $\Delta S = -48.5 \pm 3$ entropy units. Further, the dissociation of vanadium triiodide to solid diiodide and gaseous iodine

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Study of vanadium triiodide

S/078/63/008/003/001/[illegible]
B117/B186

was studied between 300 and 530°C. $\Delta H = 22 \pm 1$ kcal/mole and $\Delta S = 27 \pm 1$ entropy units were determined from three series of tests for the reaction $2VI_3 = 2VI_2 + I_2$. Experiments using different-sized portions of triiodide afforded consistent values for the dissociation pressure. This suggests that vanadium trioxide and dioxide do not possess an appreciable range of homogeneity. The formation enthalpy and entropy of solid diiodide were calculated from the thermodynamic values found for triiodide: $\Delta H = -78 \pm 3$ kcal/mole for the formation of VI_2 from gaseous iodine and metal, and $\Delta H = -63 \pm 3$ kcal/mole for the formation from solid iodine and metal. The entropy found, $\Delta S = -35 \pm 2$ entropy units, agreed with published data. There are 2 figures and 6 tables.

SUBMITTED: August 13, 1962

Card 2/2

TSINTSIUS, V.M.; YUDOVICH, Ye.Ye.

Vanadium dibromide and diiodide vapor pressure. Zhur.neorg.khim. 9 no.4:1015-1016 Ap '64. (MIRA 17:4)

SHCHUKAREV, S.A.; TOLMACHEVA, T.A.; TSINTSIUS, V.M.

Disproportionation of vanadium tribromide at high temperatures. Zhur.neorg.khim. 7 no.7:1505-1508 Jl '62. (MIRA 16:3)
(Vanadium bromide)

TSINTSIUS, V.M.

USSR/Phys. Chemistry, Thermodynamics, Thermochemistry, Equilibriums B-8
Phys. Chem. Anal-is, Phase-Transitions

Abs Jour : Ref Zhur - Khimiya, No 7, 1957, 22263

Author : S. A. Shchukarev, M. A. Oranskaya, V. M. Tsintsius
Inst : Not given
Title : Thermic dissociation of gold chlorides

Orig Pub : Zh. neorgan. khimii, 1956, No 5, 881-886

Abstract : Dissociation pressures of $AuCl_3$ are determined by static method in the range 150-247° C for the reaction $AuCl_3 \rightleftarrows AuCl + Cl_2$ ($lgp_{Cl_2}(at) = 8.73-4547/T$) and AuCl in the range 150-255° C for the reaction $2AuCl \rightleftarrows Au + Cl_2$ ($lgp_{Cl_2}(at) = 6.23-3483/T$). Variations of entropy (in entropy units) are calculated for indicated reactions, respectively: $\Delta S = 38.5 \pm 1.5$ and 30 ± 3 and the formation of heat (in kcal/mole) of $AuCl_3$ $\Delta H = -27 \pm 1$ and $AuCl$ $\Delta H = 8.0 \pm 1.0$. Computation of free energy variations shows that at $T < 450°K$ AuCl is metastable on account of freezing of disproportionation reaction $3AuCl = AuCl_3 + 2Au$. Attempts to obtain a hypothetical compound $AuCl_2$ remained ineffective.

Card 1/1

-86-

SHCHUKAREV, S.A.; VASIL'KOVA, I.V.; ORANSKAYA, M.A. [deceased];
TSINTSIUS, V.M.; SUBBOTINA, N.A.

Determination of the enthalpy of vanadium tribromide formation.
Vest LGU 16 no.16:125-129 '61. (MIRA 14:8)
(Vanadium chloride)
(Enthalpy)

SHCHUKAREV, S.A.; TOLMACHEV, T.A.; TSINTSIUS, V.M.

Thermodynamic characteristics of vanadium bromides. Zhur.neorg. khim. 7 no.3:679-681 Mr '62. (MIRA 15:3)
(Vanadium bromides)

PASECHNIK, M.S., doktor tekhn. nauk; ZHEL'VIS, A.I., kand. tekhn. nauk; KORBUT, V.A.; PLATONOVA, M.N.; SHEVYAKINA, T.S.; TSINTSIUS, V.M.; STRELE, L.A., red.

[Manual on general chemistry and physicochemical methods of analysis] Uchebnoe posobie po obshchei khimii i fiziko-khimicheskim metodam analiza. [By] M.S.Pasechnik i dr. Pod obshchei red. M.S.Pasechnika i A.I.Zhel'vis (chast' 1). Leningrad, 1965. 204 p. (MIRA 19:1)

1. Leningrad. Lesotekhnicheskaya akademiya.

TSINYAYEV, A. Ya.

Category : USSR/Solid State Physics - Diffusion. Sintering E-6

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6678

Author : Neymen, M.V., Tsinyayev, A.Ya.
Title : Investigation of Diffusion in Binary Alloys as a New Method of Physical-Chemical Analysis.

Orig Pub : Zh. neorgan. khimii, 1956, 1, No 6, 1257-1263

Abstract : The change in the coefficient of diffusion D, the energy of activation E, and the coefficient of the exponential D_0 as functions of the composition of the alloys were determined in Fe-Ni and Fe-Mo systems. In the Fe-Ni, system, which represents in the temperature region from 900 -- 1100° a continuous series of solid solutions of nickel in iron, D increases continuously, while E and log D_0 diminish continuously as functions of the alloy composition. In the Fe-Mo system, which contains the chemical compound Fe_2Mo_2 in the temperature range 100 -- 1200° under investigation, D diminishes sharply and E and log D_0 increase sharply at the point corresponding to the chemical combination. The authors believe that the singular point they observed on the diffusion characteristics vs. alloy composition curve,

Card : 1/2

Category : USSR/Solid State Physics - Diffusion, Sintering E-5

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6678

Author

corresponding to chemical combination, makes it possible to employ the study of diffusion in binary alloys as a new method of physical-chemical analysis.

Card : 2/2

TSINYAYEV, A. Ye.

Category : USSR/Solid State Physics - Diffusion. Sintering E-6

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6678

Author : Neyman, M.V., Tsinyayev, A.Ye.
Title : Investigation of Diffusion in Binary Alloys as a New Method of Physical-Chemical Analysis.

Orig Pub : Zh. neorgan. khimii, 1956, 1, No 6, 1257-1263

Abstract : The change in the coefficient of diffusion D, the energy of activation E, and the coefficient of the exponential D_0 as functions of the composition of the alloys were determined in Fe-Ni and Fe-Mo systems. In the Fe-Ni, system, which represents in the temperature region from 900 -- 1100° a continuous series of solid solutions of nickel in iron, D increases continuously, while E and log D_0 diminish continuously as functions of the alloy composition. In the Fe-Mo system, which contains the chemical compound Fe_3Mo_2 in the temperature range 100 -- 1200° under investigation, D diminishes sharply and E and log D_0 increase sharply at the point corresponding to the chemical combination. The authors believe that the singular point they observed on the diffusion characteristics vs. alloy composition curve,

Card : 1/2

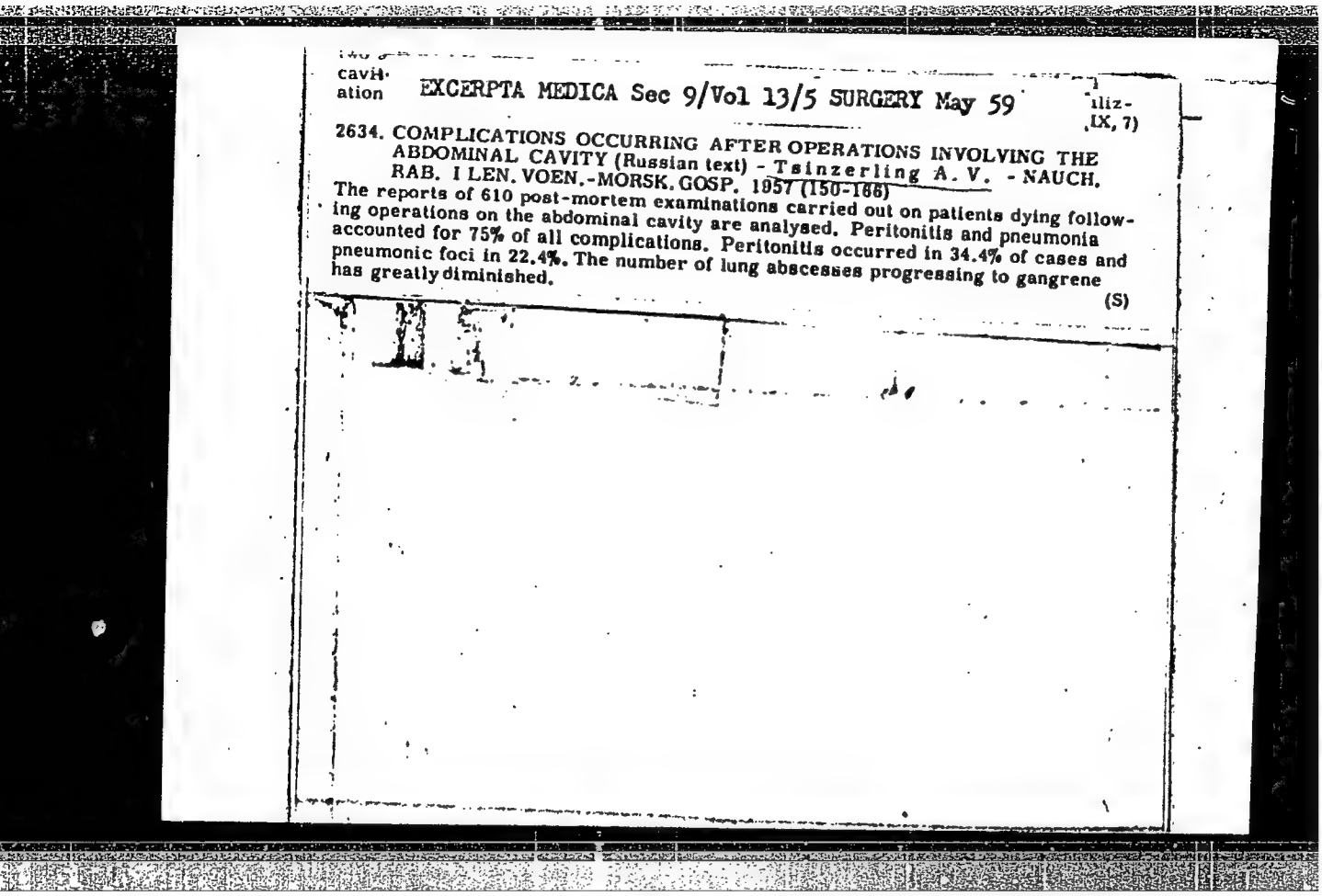
Category : USSR/Solid State Physics - Diffusion, Sintering E-5

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6678

Author

corresponding to chemical combination, makes it possible to employ the study of diffusion in binary alloys as a new method of physical-chemical analysis.

Card : 2/2



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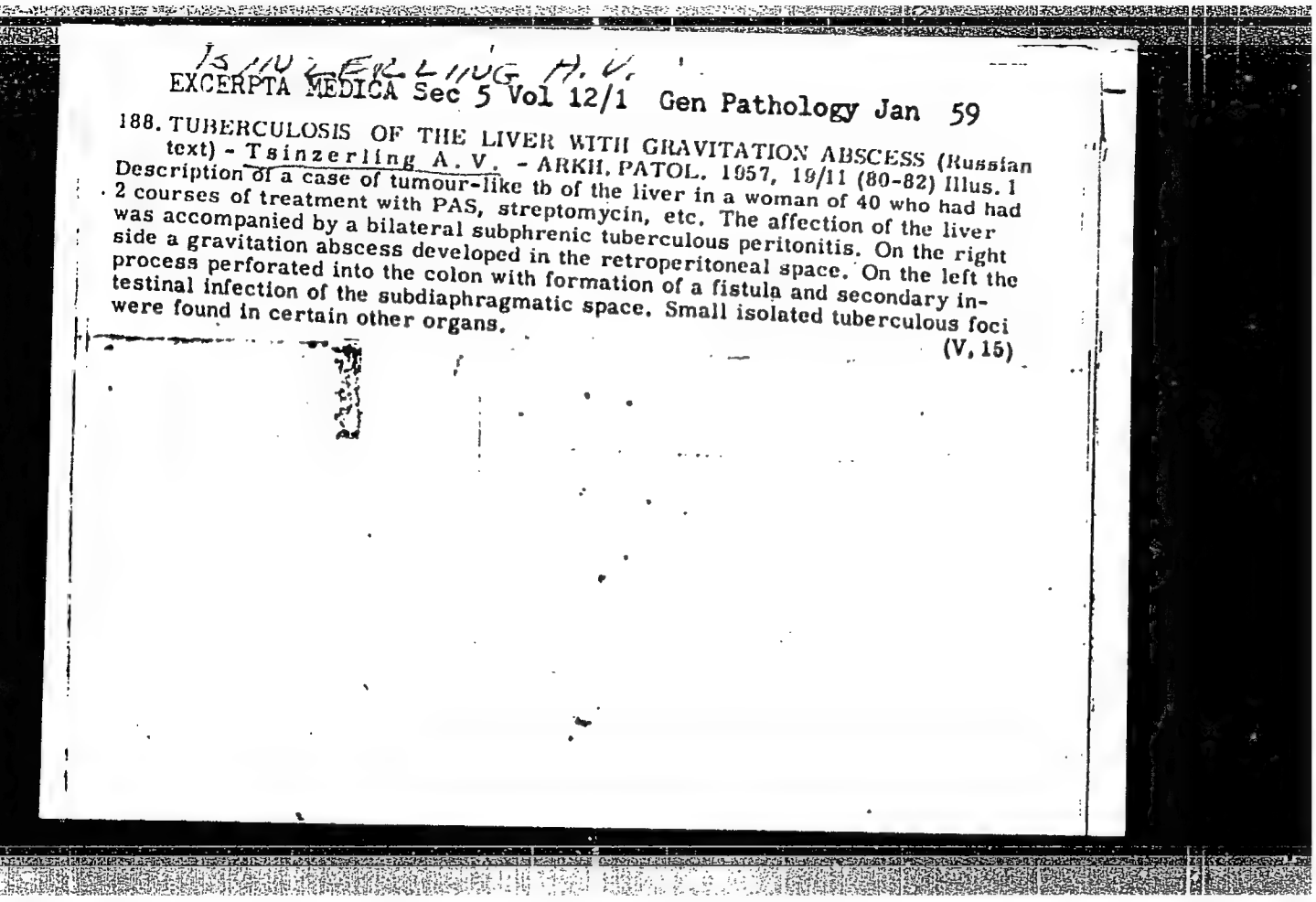
ation EXCERPTA MEDICA Sec 9/Vol 13/5 SURGERY May 59 iliz-
(IX, 7)

2634. COMPLICATIONS OCCURRING AFTER OPERATIONS INVOLVING THE ABDOMINAL CAVITY (Russian text) - Tsinzerling A. V. - NAUCH. RAB. I LEN. VOEN.-MORSK. GOSP. 1957 (150-166)

The reports of 610 post-mortem examinations carried out on patients dying following operations on the abdominal cavity are analysed. Peritonitis and pneumonia accounted for 75% of all complications. Peritonitis occurred in 34.4% of cases and pneumonic foci in 22.4%. The number of lung abscesses progressing to gangrene has greatly diminished.

(S)



TSINZERLING A. V.

EXCERPTA MEDICA Sec 5 Vol 12/1 Gen Pathology Jan 59

188. TUBERCULOSIS OF THE LIVER WITH GRAVITATION ABSCESS (Russian text) - Tsinzerling A. V. - ARKH. PATOL. 1957, 19/11 (80-82) Illus. 1

Description of a case of tumour-like tb of the liver in a woman of 40 who had had 2 courses of treatment with PAS, streptomycin, etc. The affection of the liver was accompanied by a bilateral subphrenic tuberculous peritonitis. On the right side a gravitation abscess developed in the retroperitoneal space. On the left the process perforated into the colon with formation of a fistula and secondary intestinal infection of the subdiaphragmatic space. Small isolated tuberculous foci were found in certain other organs.

(V, 15)

PETROV, I.R., prof.; KOROSTOVTSEVA, N.V., kand.med.nauk; ASTAKHOVA, T.N., kand.med.nauk; TSIHZERLING, A.V., kand.med.nauk

Use of artificial hypothermia for the prevention of sequelae of circulatory disorders consecutive to ligation of the portal vein and renal artery under experimental conditions. Vest. AMN SSSR 14 no.9:47-56 '59. (MIRA 13:1)

1. Laboratoriya eksperimental'noy patologii Leningradskogo instituta perelivaniya krovi i patologoanatomicheskoye otdeleniye Voyenno-morskogo gospitalya. 2. Chlen-korrespondent AMN SSSR (for Petrov).
(HYPOTHERMIA INDUCED)
(PORTAL VEIN physiol.)
(KIDNEYS blood supply)

TSINZERLING, A.V.

USSR/Microbiology - Microorganisms Pathogenic to Humans and Animals. F-5

Abs Jour : Ref Zhur - Biol., No 3, 1958, 9989

Author : Tsinzerling, A.V., Borovaya, A.Ya.
Inst :
Title : Case of Fungus Pneumonia.

Orig Pub : Vrachebn. delo, 1957, No 3, 299-300

Abstract : No abstract.

Card 1/1

TSINZERLING, A. V.

Change in the inflammational reaction in theprocess of immunization; experiments with Candida albicans. Dokl. AN SSSR 156 no. 1:177-178 My '64. (MIRA 17:5)

1. Leningradskiy nauchno-issledovatel'skiy institut detskikh infektsiy i Institut eksperimental'noy meditsiny AMN SSSR. Predstavleno akademikom N. N. Anichkovym.

TSINZERLING, A.V.

GREBENSHCHIKOVA, V.G., TSINZERLING, A.V.

A case of cardiac rupture with an unusual course. Klin.med. 36 no.4:129-131 Ap'58 (MIRA 11:5)

1. Iz I Voyenno-morskogo ordena Lenina gospitalya (nach. Ye.Ye. Polishuk)

(MYOCARDIAL INFARCT, compl.
heart rupt. (Rus))
(HEART, rupt.
caused by myocardia infarct (Rus))

TSINZERLING, A.V.(Leningrad)

Pathoanatomy and etiology of pneumonia resistant to sulfonamide and penicillin therapy. Arkh. pat. 17 no.4:57-64 O-D '55. (MLRA 9:2)

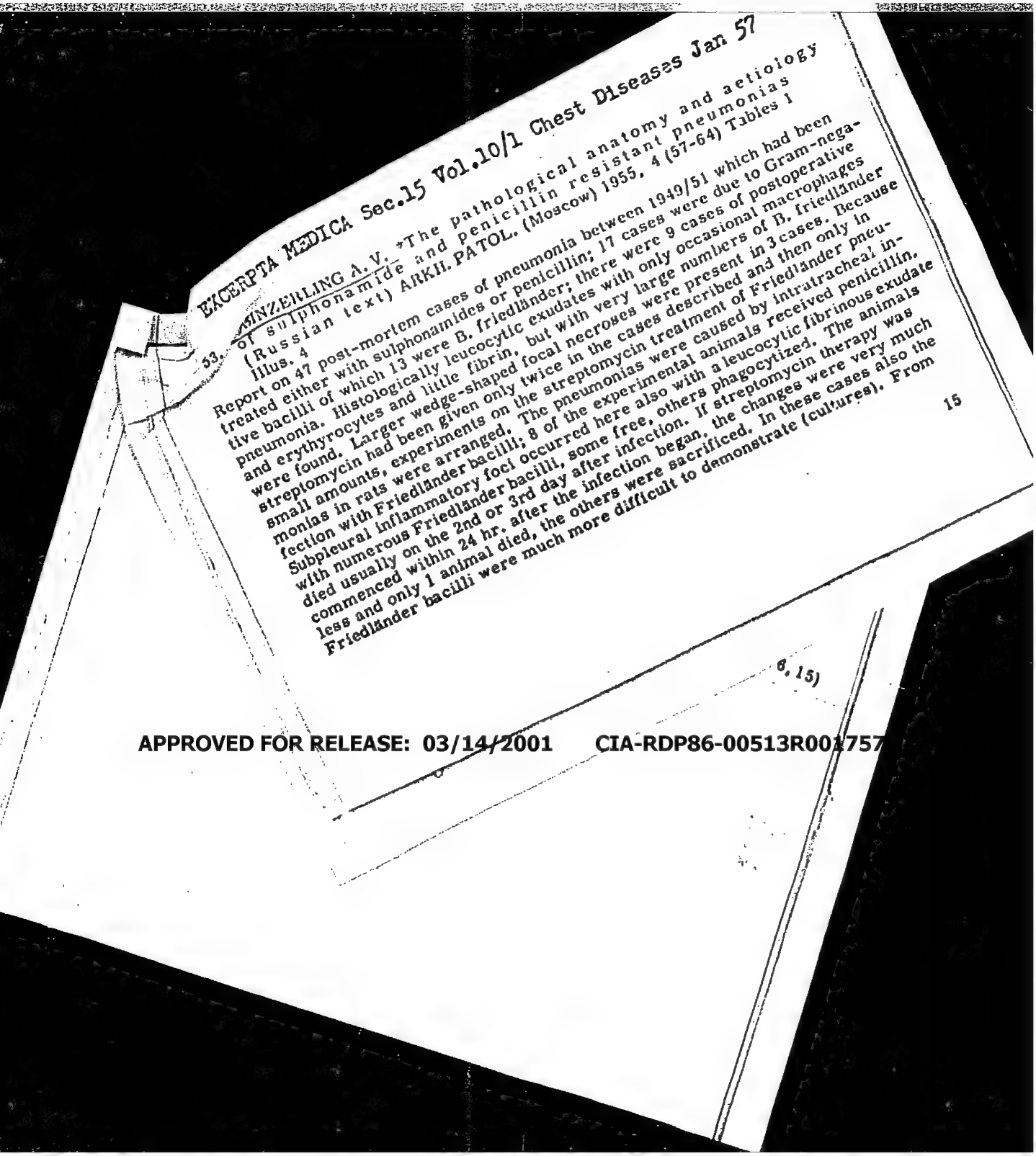
1. Iz kafedry patologicheskoy anatomii (nachal'nik--prof. A.N. Chistovich) voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.

(PNEUMONIA, therapy,
penicillin & sulfonamides, histopathol. & etiol. of resist. cases)
(PENICILLIN, therapeutic use,
pneumonia, histopathol. & etiol. of resist. cases)
(SULFONAMIDES, therapeutic use,
pneumonia, histopathol. & etiol. of resist. cases)

TSINZERLING, A.V.

Concerning the role of pathogenic fungi in pneumonia [with summary in English]. Trudy LSGMI 41:81-89 '58 (MIRA 11:11)

(PNEUMONIA, microbiol.
fungi (Rus))
(FUNGUS DISEASES, compl.
pneumonia (Rus))



EXCERPTA MEDICA Sec.15 Vol.10/1 Chest Diseases Jan 57

53. SINZERLING A.V. *The pathological anatomy and aetiology of sulphonamide and penicillin resistant pneumonias (Russian text) ARKH. PATOL. (Moscow) 1955, 4 (57-64) Tables 1 Illus. 4

Report on 47 post-mortem cases of pneumonia between 1949/51 which had been treated either with sulphonamides or penicillin; 17 cases were due to Gram-negative bacilli of which 13 were B. friedländer; there were 9 cases of postoperative pneumonia. Histologically leucocytic exudates with only occasional macrophages and erythyrocytes and little fibrin, but with very large numbers of B. friedländer were found. Larger wedge-shaped focal necroses were present in 3 cases. Because streptomycin had been given only twice in the cases described and then only in small amounts, experiments on the streptomycin treatment of Friedländer pneumonias in rats were arranged. The pneumonias were caused by intratracheal infection with Friedländer bacilli; 8 of the experimental animals received penicillin. Subpleural inflammatory foci occurred here also with a leucocytic fibrinous exudate with numerous Friedländer bacilli, some free, others phagocytized. The animals died usually on the 2nd or 3rd day after infection. If streptomycin therapy was commenced within 24 hr. after the infection began, the changes were very much less and only 1 animal died, the others were sacrificed. In these cases also the Friedländer bacilli were much more difficult to demonstrate (cultures). From

15

6, 15)

TSINZERLING, A.V.

Effect of chlortetracycline on experimental pulmonary candidiasis in white mice. Report No.1: Experiments with simultaneous introduction of chlortetracycline and Candidaalbicans cultures. Biul.eksp.biol. i med. 47 no.6:33-37 Je '59. (MIRA 12:8)

1. Iz patologoanatomicheskogo otdeleniya (nach. - kand.med. nauk A.V.TSinzerling) Voyenno-morskogo ordena Lenina gospitalya i laboratorii infektsiy (zav. - prof.M.V.Voyno-Yasenetskiy) otdela patologicheskoy anatomii (zav. - akademik N.N.Anichkov) Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad. Predstavlena akademikom N.N.Anichkovym).

(CHLORTETRACYCLINE, eff.
on exper. pulm. moniliasis (Rus))
(MONILIASIS, exper.
pulm., eff. of chlortetracycline (Rus))
(LUNG DISEASES, exper.
moniliasis, eff. of chlortetracycline (Rus))

TSINZERLING, A.V., kandidat meditsinskikh nauk. (Leningrad) BOROVAYA, A. Ya. (Leningrad)

Case of fungus pneumonia. Vrach. delo no.3:299 Mr '57 (MLRA 10:5)

(PNEUMONIA)

TSINZERLING, A.V., kandidat meditsinskikh nauk

Pathological anatomy and pathogenesis of postoperative pneumonia.
Vest.khir.76 no.9:54-61 O '55. (MLRA 9:1)

1. Iz kafedry patologicheskoy anatomii (nach.prof. A.N.Chistovich)
Voyenno-meditsinskoy ordena Lenina akademii im. S.M.Kirova.
(PNEUMONIA,
postop.pathol.anat. & pathogen.)

TSINZERLING, A.V. (Leningrad)

Pathological anatomy of some forms of pneumonia treated with sulfanilamide and penicillin. Arkh.pat. 21 no.7:20-23 '59. (MIRA 13:5)

1. Iz kafedry patologicheskoy anatomii (nachal'nik - prof. A.N. Chistovich) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.

(PNEUMONIA therapy)
(PENICILLIN therapy)
(SULFANILAMIDE therapy)

KRIVOSHEYEV, V.I.; TSINZERLING, A.V.

Development of cadidiasis in a patient operated on for calculous cholecystitis. Vest.khir. 85 no.12:108-109 D '60.
(MIRA 14:1)

1. Iz 1-go voyenno-morskogo ordena Lenina gospitalya (nach. - Ye.Ye. Polishchuk).
(MONILIASIS) (CALCULI, BILIARY)

TSINZERLING, A.V. (Leningrad)

Evaluation of the inoculation of pulmonary fungi belonging to the family Candida. Klin.med. 38 no.10:88-90 O '60.

(MIRA 13:11)

1. Iz patologoanatomicheskogo otdeleniya (nach. - kand.med.nauk A.V. TSinzerling) Voyenno-morskogo gospitalya i laboratorii (zav. - prof. M.V. Voyno-Yasenetskiy) otdela patologicheskoy anatomii (zav. - akad. N.N. Anichkov) Instituta eksperimental'noy meditsiny AMN SSSR.

(PNEUMONIA) (MONILIASIS)

TSINZERLING, A.V.

Course of experimental pulmonary candidiasis afer X-irradiation.
Med.rad. 6 no.3:51-54 '61. (MIRA 14:5)
(MONILIASIS) (LUNGS—DISEASES) (RADIATION—PHYSIOLOGICAL EFFECT)

TSINZERLING, A.V.

Method of histological study of tissues in various mycoses. (MIRA 13:12)
Arkh.pat 22 no.2:76-77 '60.
(MEDICAL MYCOLOGY)

TSINZERLING, A.V.

Effect of chlortetracycline on the course of experimental candidamycosis in the lungs of white rats. Report No.2: Experiments with a preliminary administration of chlortetracycline. Biul. eksp. biol.i med. 50 no.9:120-123 S '60. (MIRA 13:12)

1. Iz patologoanatomicheskogo otdeleniya (nach. - kandidat meditsinskikh nauk A.V. TSinzerling) Voyenno-morskogo gospitalya i laboratorii infektsionnoy patologii (zav. - prof. M.V.Voyno-Yasenetskiy) otdela patologicheskoy anatomii (zav. - akad. N.N.Anichkov) Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad.
(AUREOMYCIN) (LUNGS--DISEASES) (MONILIASIS)

ABARBANEL', Ya.S.; TSINZERLING, A.V.

Dynamics of the changes in candidiasis of the lungs. Eksp. i klin. issl. po antibiot. 2:103-105 '60. (MIRA 15:5)
(LUNGS--DISEASES) (MONILIASIS)

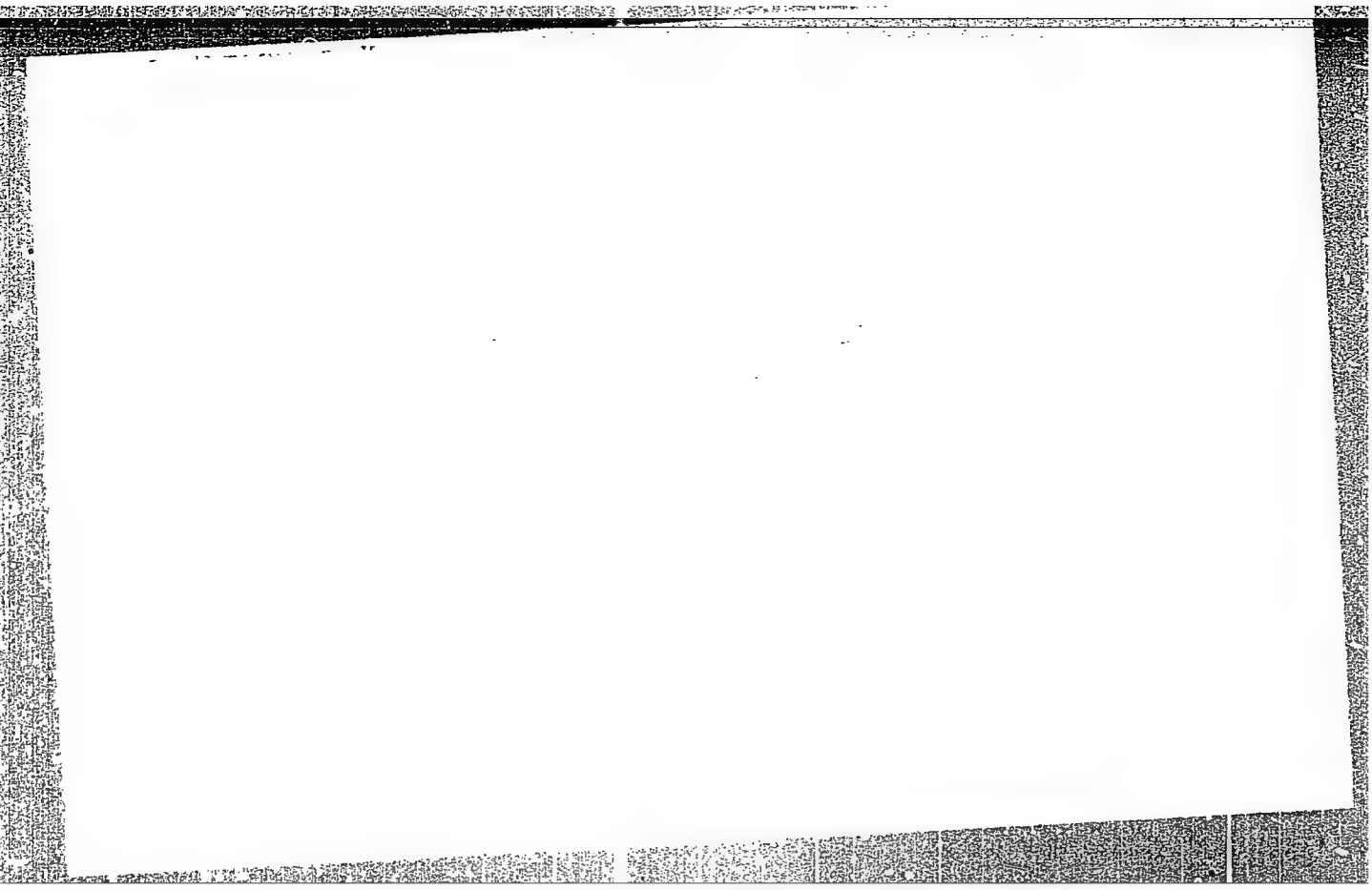
TSINZERLING, A.V.

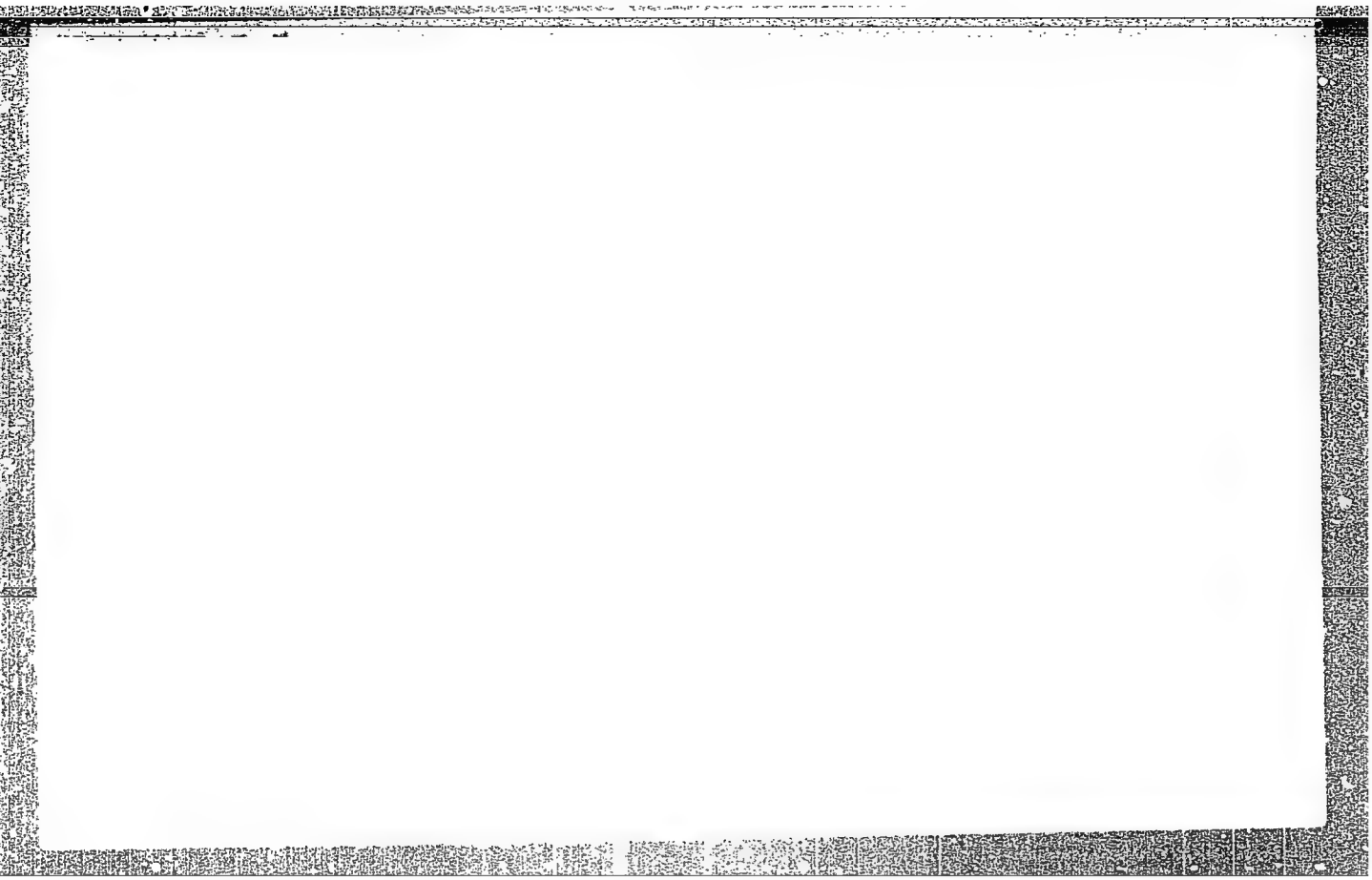
Changes in the lungs of white rats after the intranasal introduction of Candida albicans. Eksp. i klin. issl. po antibiot. 1:186-191 '58. (MIRA 15:5)

(MONILIASIS)

TSINZERLING, Vsevolod Dmitriyevich [deceased]; TSINZERLING, Aleksandr Vsevolodovich; AGEYEV, A.K., red.; LEBEDEVA, G.T., tekhn. red.

[Pathological anatomy of acute pneumonias of various etiology] Patologicheskaia anatomiia ostrykh pnevmonii raznoi etiologii. Leningrad, Medgiz, 1963. 173 p. (MIRA 16:7)
(PNEUMONIA)





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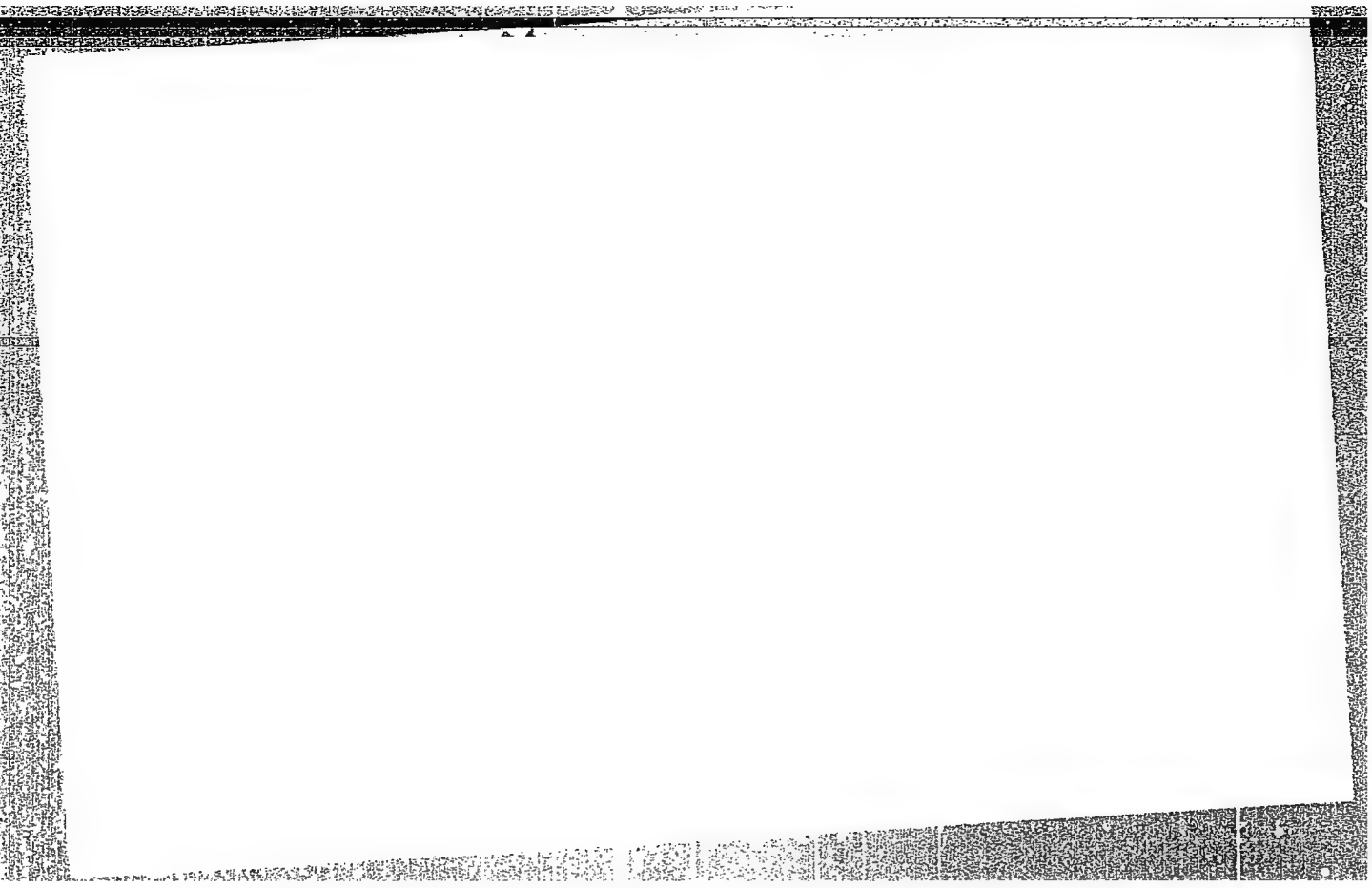

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TSINZERLING, A.V.

TSINZERLING, A.V. (Leningrad)

Peculiar form of tuberculosis of the liver with gravitation abscess [with summary in English]. Arkh.pat. 19 no.11:80-82 '57. (MIRA 11:1)

1. Iz Voyenno-morskogo ordena Lenina gospitalya (nachal'nik Ye.Ye. Polishchuk)
(TUBERCULOSIS, HEPATIC, complications, gravitation abscess (Rus))

TSINZERLING, Aleksandr Vsevolodovich; AGEYEV, A.K., red.

[Candidiasis of the lungs; pathological anatomy and pathogenesis] Kandidoz legkikh; patologicheskaia anatomiia i patogenez. Leningrad, Meditsina, 1964. 154 p. (MIRA 17:8)

BERZINA, I.G.; BLISTANOV, A.A.; TSINZERLING, L.G.

Detachment and motion of dislocations in radiation-strengthened lithium fluoride crystals. Fiz. tver. tela 6 no.11:3402-3408 N '64. (MIRA 18:1)

1. Institut stali i splavov, Moskva.

SHASKOL'SKAYA, M.P.; TSINZERLING, L.G.; KULABUKHOVA, R.I.

Selective etchant and a polishing solution for potassium bromide crystals. Kristallografiia 10 no.1:121-125 Ja-F '65. (MIRA 18:3)

1. Moskovskiy institut stali i splavov.

TSINZERLING, V. D. DECEASED 1964

Medicine

TSINZERLING, V.F. Card

Gen Med Sci -- (diss) "Changes in the Nervous System during the Experimental Paratyphoid Infection" (Experimental-Morphological Study). Len, 1957. 15 pages (Acad Med Sci USSR. Inst of Exper Med). 200 copies. (KL, 10-58, 122).

TSINZERLING, VLADIMIR VLADIMIROVICH.

TSINZERLING, VLADIMIR VLADIMIROVICH
Orozhenie na AmuDar'e. Moskva, Izd. Upravleniia vodnogo khoziaistva Srednei Azii, 1927. xxiii, 808 p.
DLC: TC910.A7T7

SO: LC, Soviet Geography, Part I, 1951, Uncl.

TSINZERLING V. V.

"Inte nal Water Ci-culation on the European Pl in of the USSR and Its Si nificance for the Water Economy", Dokl. AsIP, Vol II, No 7, 1948 (37-47)

SO: U-3030, 11 Mar 1953

USSR/Meteorology - Humidity Sep/Oct 52

"Natural Humidity Circulations and Their Influence on the Climate of the USSR," V. V. Tsinzerling.

"Iz Ak Nauk SSSR, Ser Geog" No 5, pp 58-75

Current article was presented as report during the meeting of the Sci Council of Geog Inst, Acad Sci USSR, in May 1952. It is an abridgement of author's general work: "Geophysical Laws Governing the Climate of the USSR." It deals with ...

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TSINZERLING, V. V.

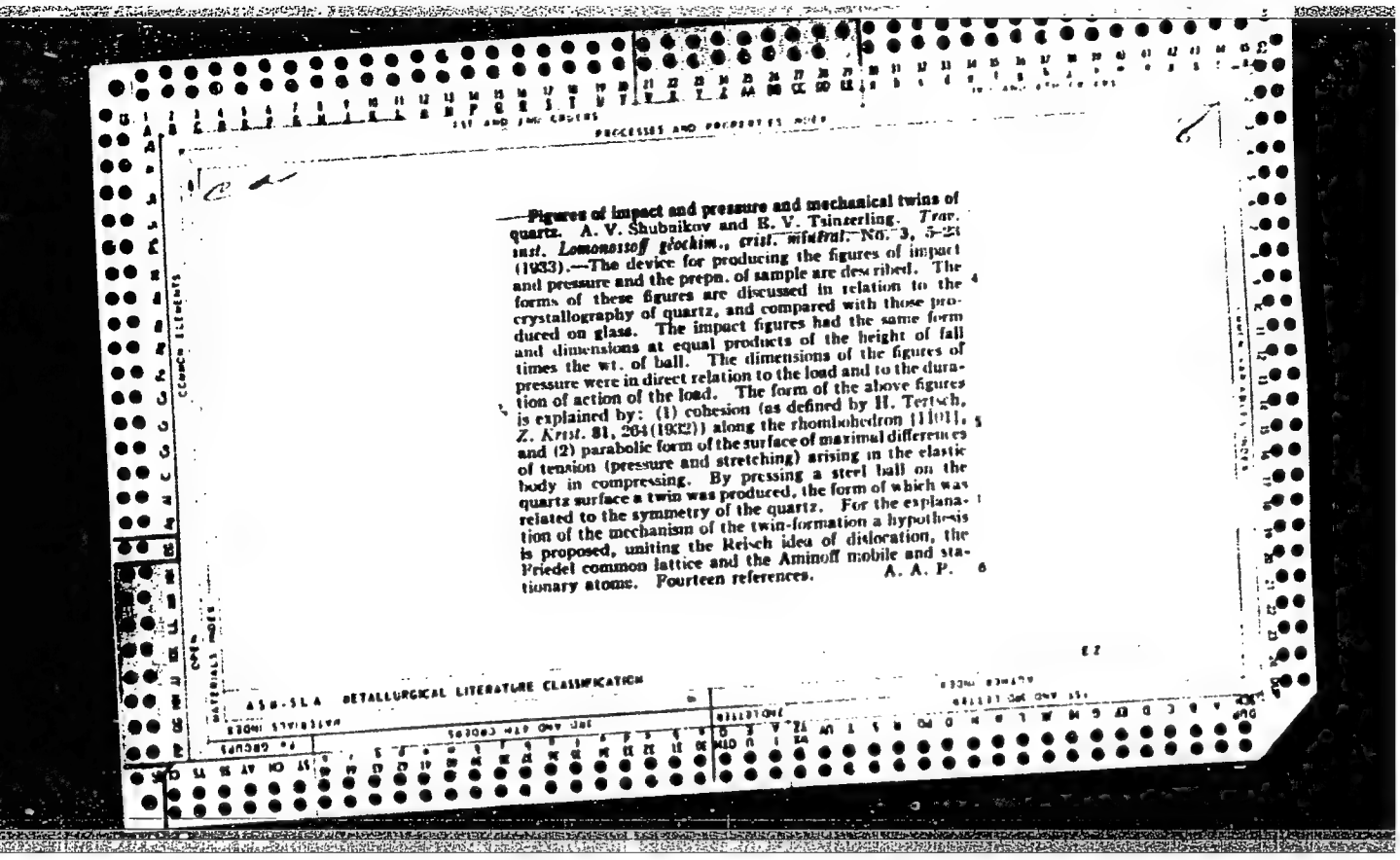
evaluation of author's new geophys methods, attempting to prove that the main part of intracontinental pptn is due to vapors of continental origin. It confirms concept by A. I. Voyeykov. "Selected Works" Vol 1-2, 1948-9).

226T87

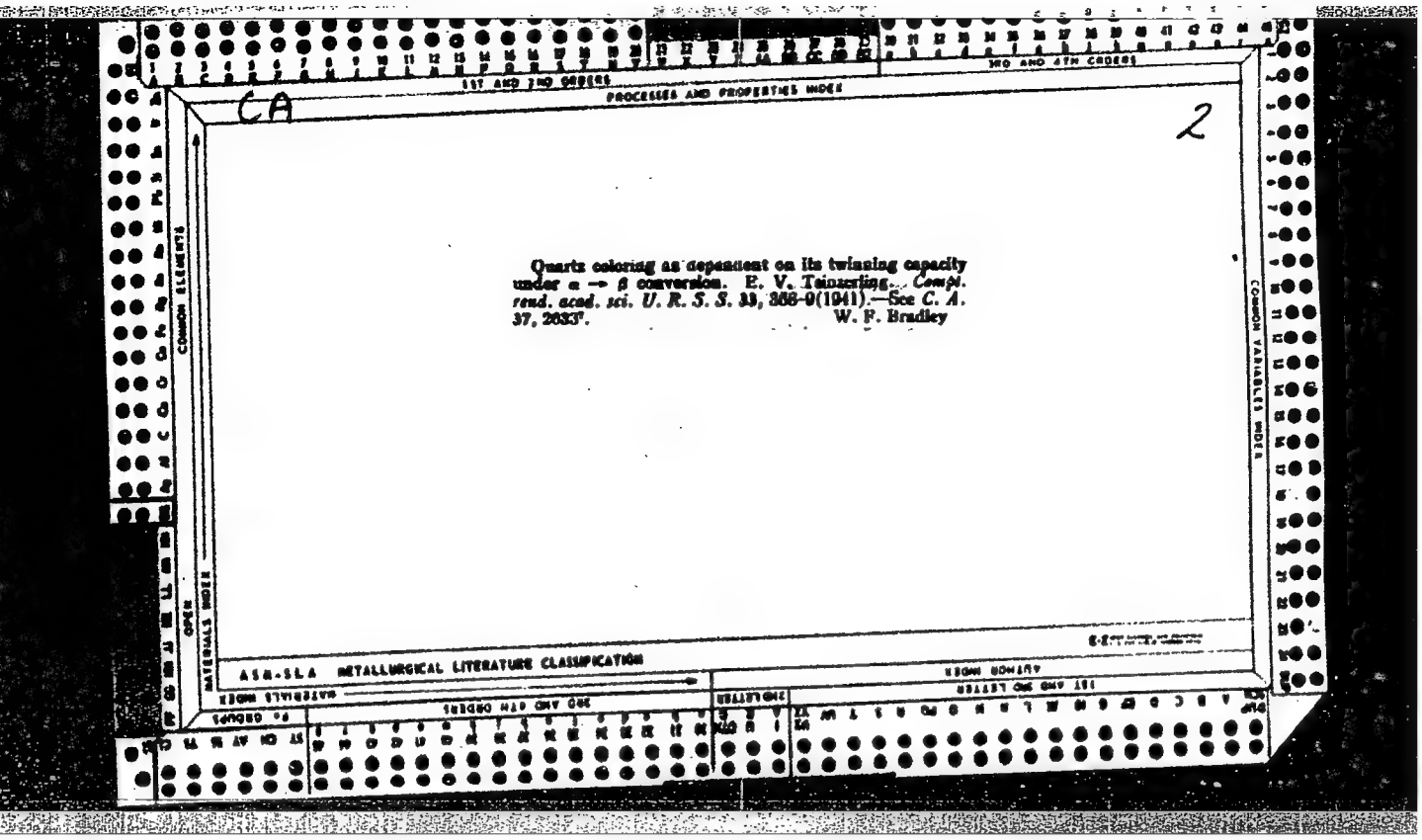
TSINZERLING, Ye. A., M. A. CHERNYSHEVA and B. I. GARBER

"Problems of Mechanic Twin Formation of Crystals."

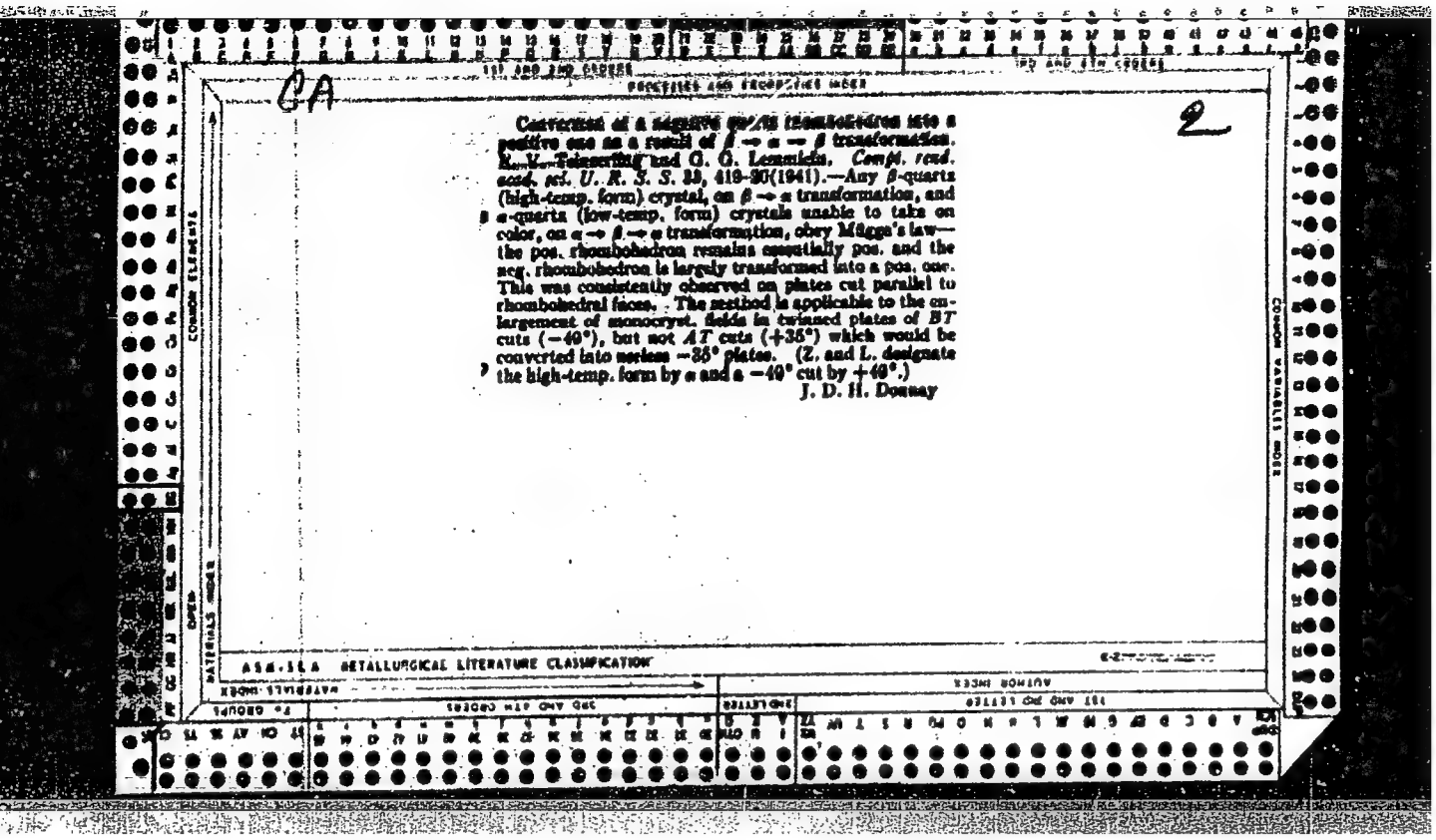
report presented at the Conference on Investigation of Mechanical Properties of Non-Metals, by the Intl. Society of Pure and Applied Physics and the AS USSR, at Leningrad, 19-24 May 1958.
(Vest. Ak Nauk SSSR, 1958, no. 9, pp. 109-111)



—Figures of impact and pressure and mechanical twins of quartz. A. V. Shubnikov and B. V. Tsinzerling. *Trav. inst. Lomonossoff géochim., cristl. minéral.* No. 3, 5-23 (1933).—The device for producing the figures of impact and pressure and the prepn. of sample are described. The forms of these figures are discussed in relation to the crystallography of quartz, and compared with those produced on glass. The impact figures had the same form and dimensions at equal products of the height of fall times the wt. of ball. The dimensions of the figures of pressure were in direct relation to the load and to the duration of action of the load. The form of the above figures is explained by: (1) cohesion (as defined by H. Tertsch, *Z. Krist.* 81, 264 (1932)) along the rhombohedron {1101}, and (2) parabolic form of the surface of maximal differences of tension (pressure and stretching) arising in the elastic body in compressing. By pressing a steel ball on the quartz surface a twin was produced, the form of which was related to the symmetry of the quartz. For the explanation of the mechanism of the twin-formation a hypothesis is proposed, uniting the Reisch idea of dislocation, the Friedel common lattice and the Aminoff mobile and stationary atoms. Fourteen references. A. A. P.



Quartz coloring as dependent on its twinning capacity under $\alpha \rightarrow \beta$ conversion. E. V. Tsinzerling. *Compt. rend. acad. sci. U. R. S. S.* **33**, 368-9(1941).—See *C. A.* **37**, 2033⁸. W. F. Bradley

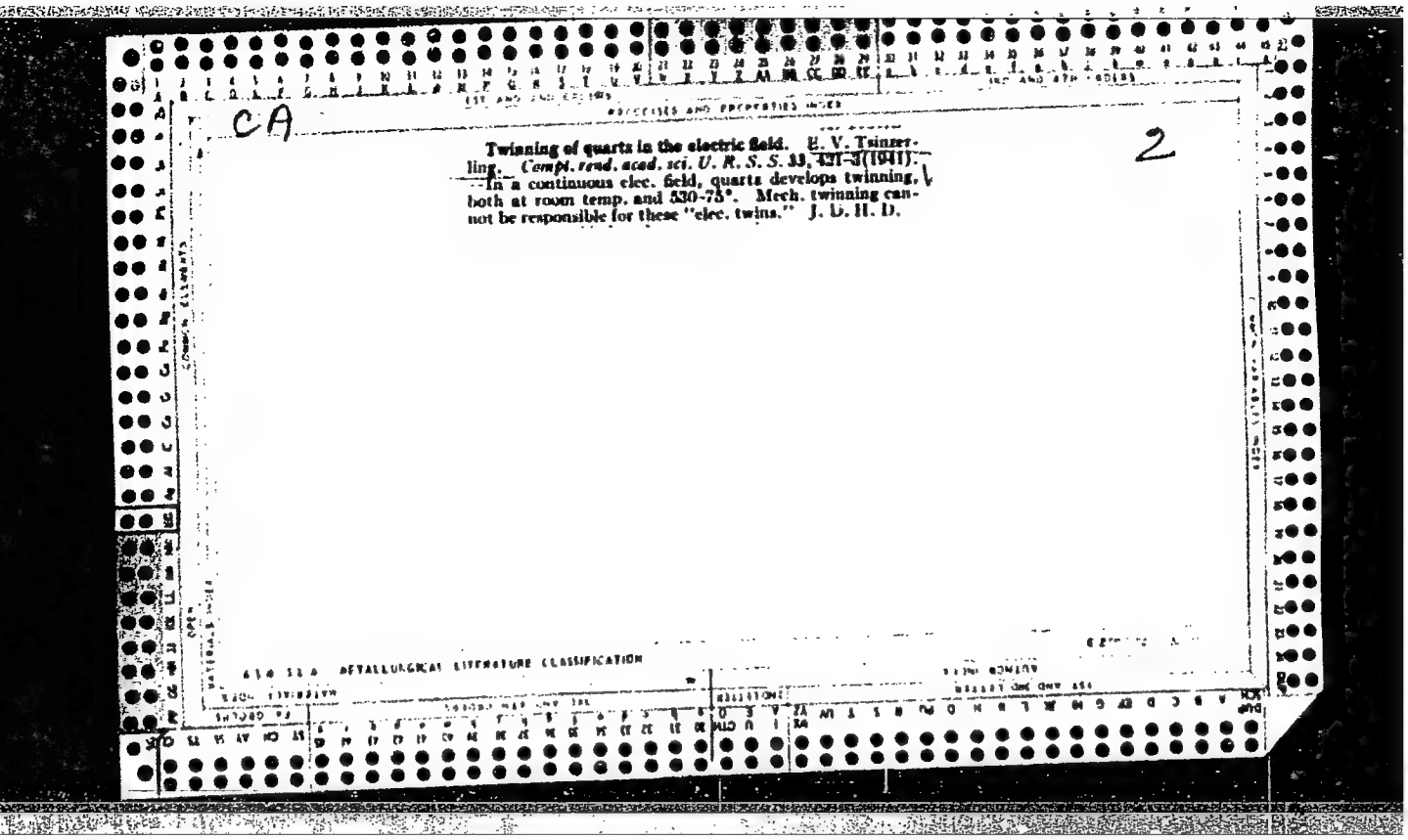


CA

2

Conversion of a negative qu/Al thermoelectrode into a positive one as a result of $\beta \rightarrow \alpha \rightarrow \beta$ transformation. L. V. Talesnik and G. G. Lemmlein. *Compt. rend. acad. sci. U. R. S. S.* 33, 419-20(1941).—Any β-quartz (high-temp. form) crystal, on $\beta \rightarrow \alpha$ transformation, and α-quartz (low-temp. form) crystals unable to take on color, on $\alpha \rightarrow \beta \rightarrow \alpha$ transformation, obey Mügge's law—the pos. rhombohedron remains essentially pos. and the neg. rhombohedron is largely transformed into a pos. one. This was consistently observed on plates cut parallel to rhombohedral faces. The method is applicable to the enlargement of monocryst. fields in twinned plates of *BT* cuts (−49°), but not *AT* cuts (+35°) which would be converted into useless −35° plates. (Z. and L. designate the high-temp. form by α and a −49° cut by +49°.)

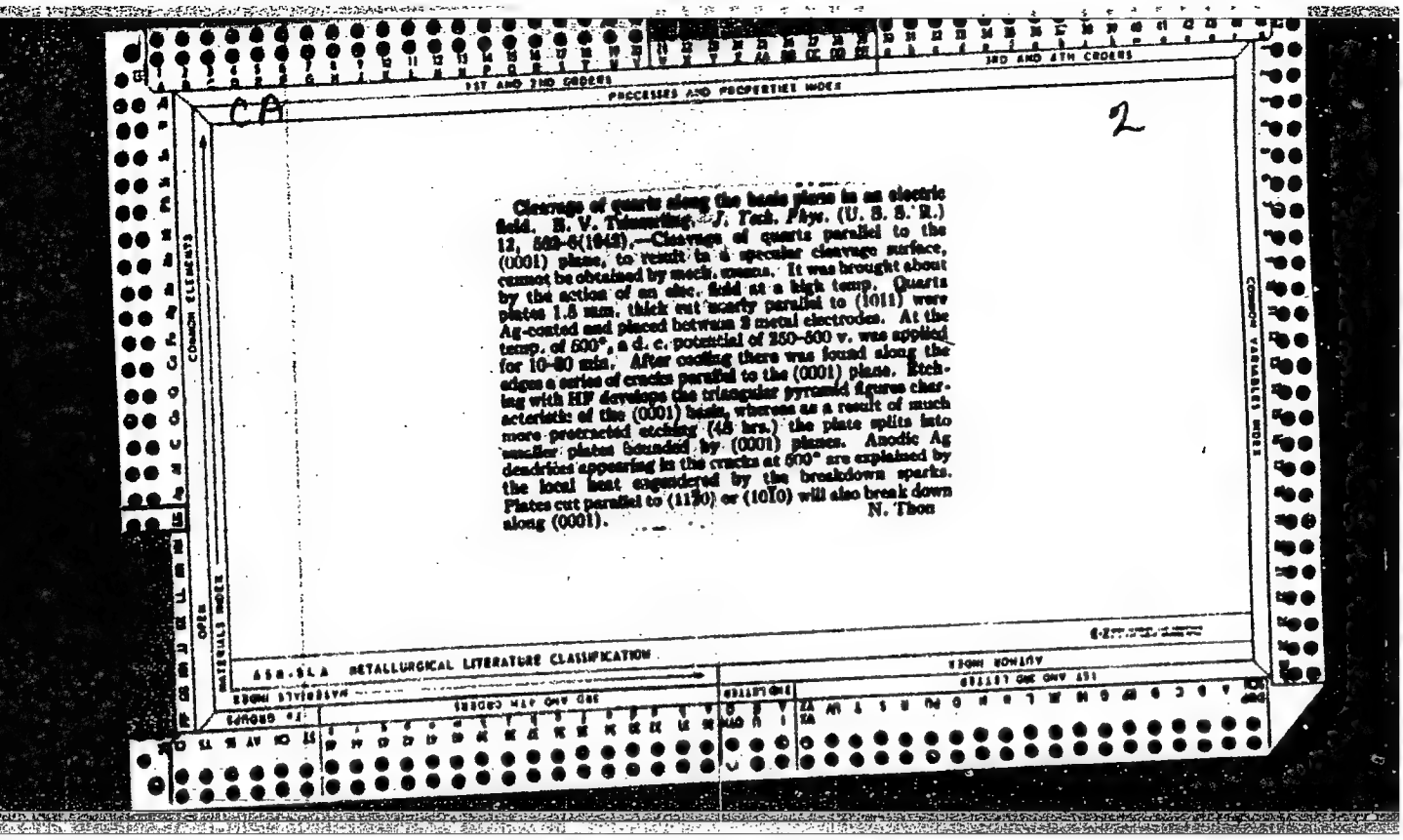
J. D. H. Donnay



CA

2

Twinning of quartz in the electric field. E. V. Tsinzerling. *Compt. rend. acad. sci. U. R. S. S.* 33, 421–3 (1941). —In a continuous elec. field, quartz develops twinning, both at room temp. and 530–75°. Mech. twinning cannot be responsible for these "elec. twins." J. D. H. D.



1ST AND 2ND CODERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH CODERS

CB

2

Cleavage of quartz along the basis plane in an electric field. B. V. Tilunovitsch. *J. Tech. Phys.* (U. S. S. R.) 12, 502-6(1942).—Cleavage of quartz parallel to the (0001) plane, to result in a specular cleavage surface, cannot be obtained by mech. means. It was brought about by the action of an elec. field at a high temp. Quartz plates 1.5 mm. thick cut nearly parallel to (1011) were Ag-coated and placed between 2 metal electrodes. At the temp. of 500°, a d. c. potential of 250–500 v. was applied for 10–80 min. After cooling there was found along the edges a series of cracks parallel to the (0001) plane. Etching with HF develops the triangular pyramid figures characteristic of the (0001) basis, whereas as a result of much more protracted etching (48 hrs.) the plate splits into smaller plates bounded by (0001) planes. Anodic Ag dendrites appearing in the cracks at 500° are explained by the local heat engendered by the breakdown sparks. Plates cut parallel to (11$\bar{2}$0) or (10$\bar{1}$0) will also break down along (0001).

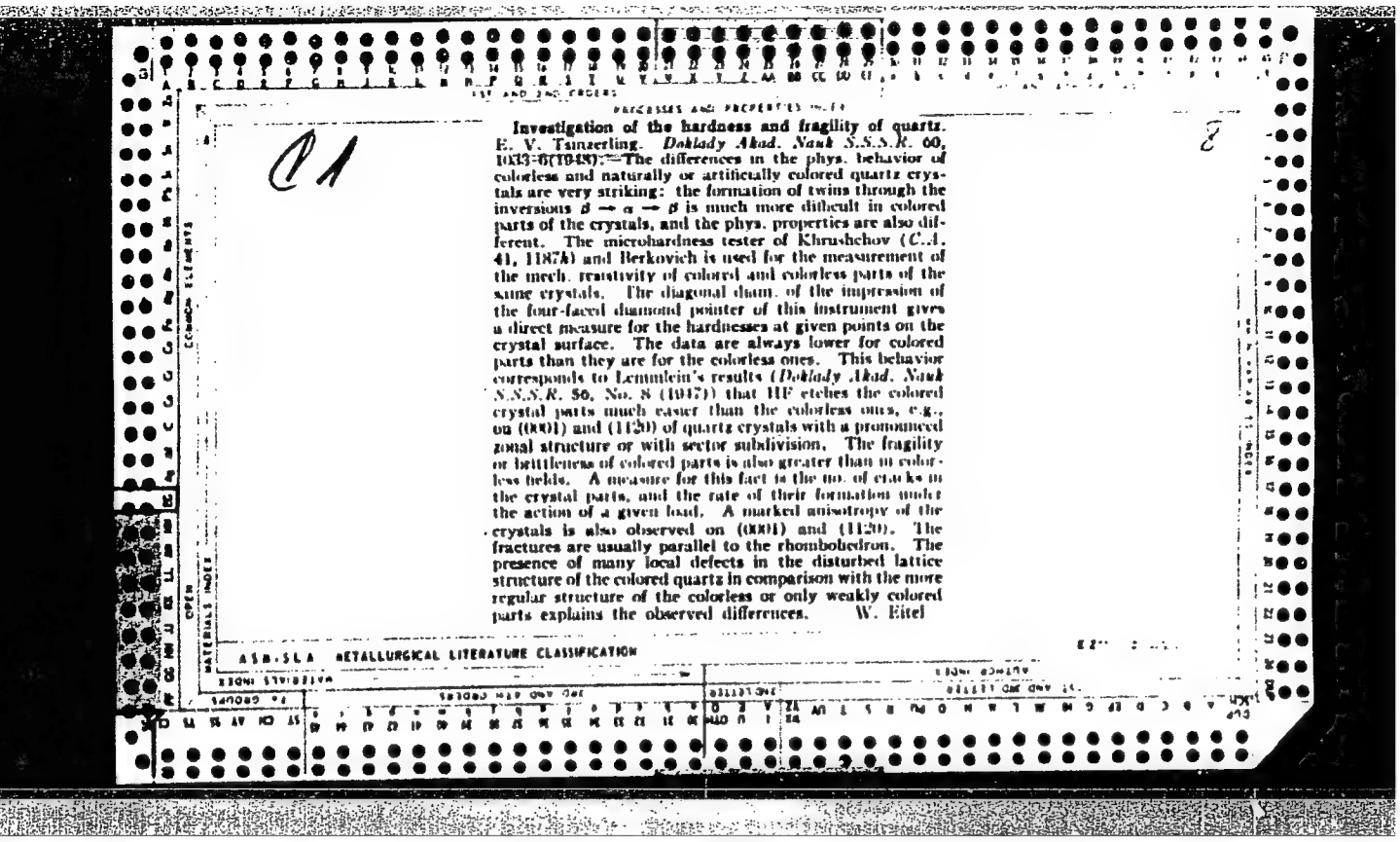
N. Thon

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

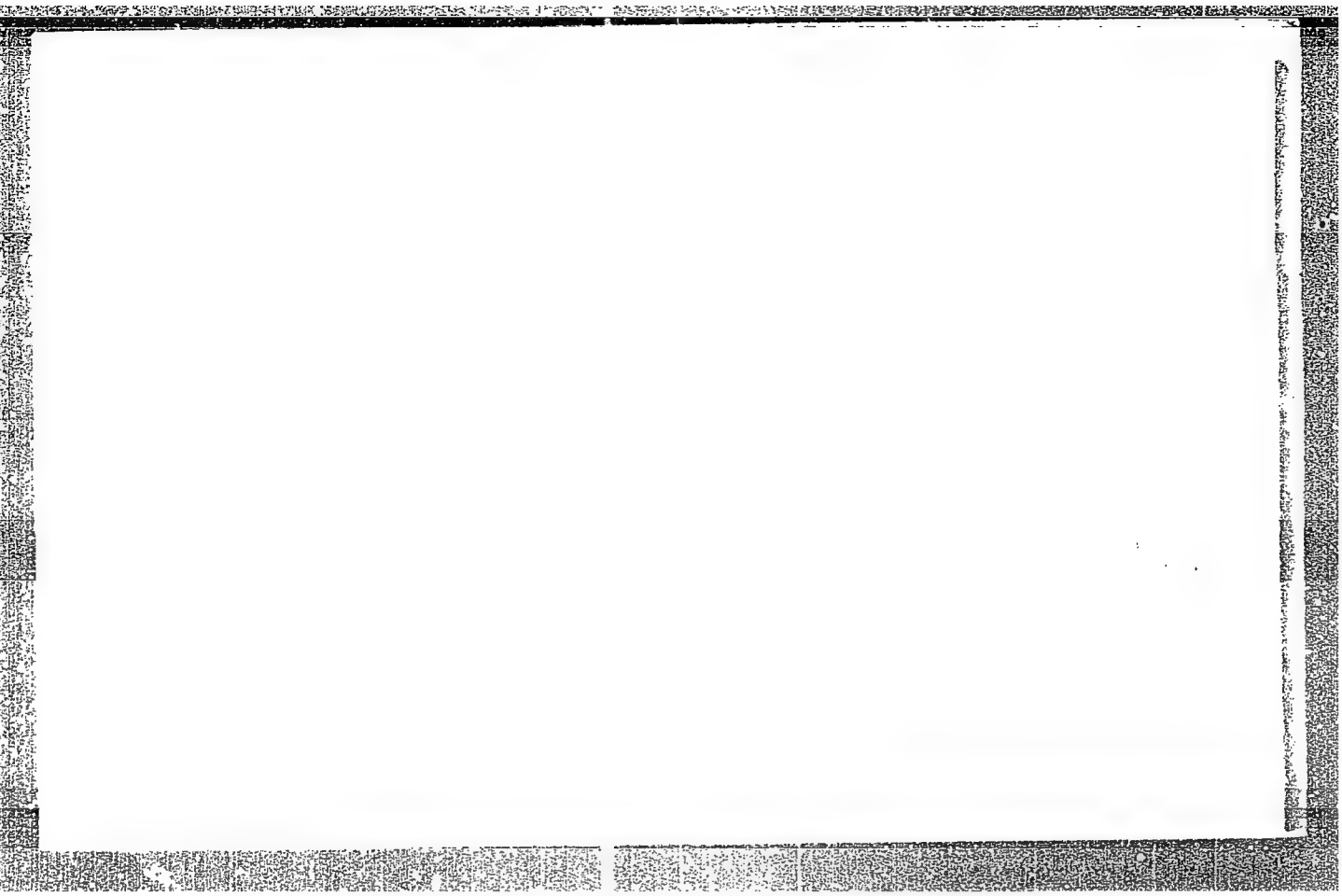
C, A

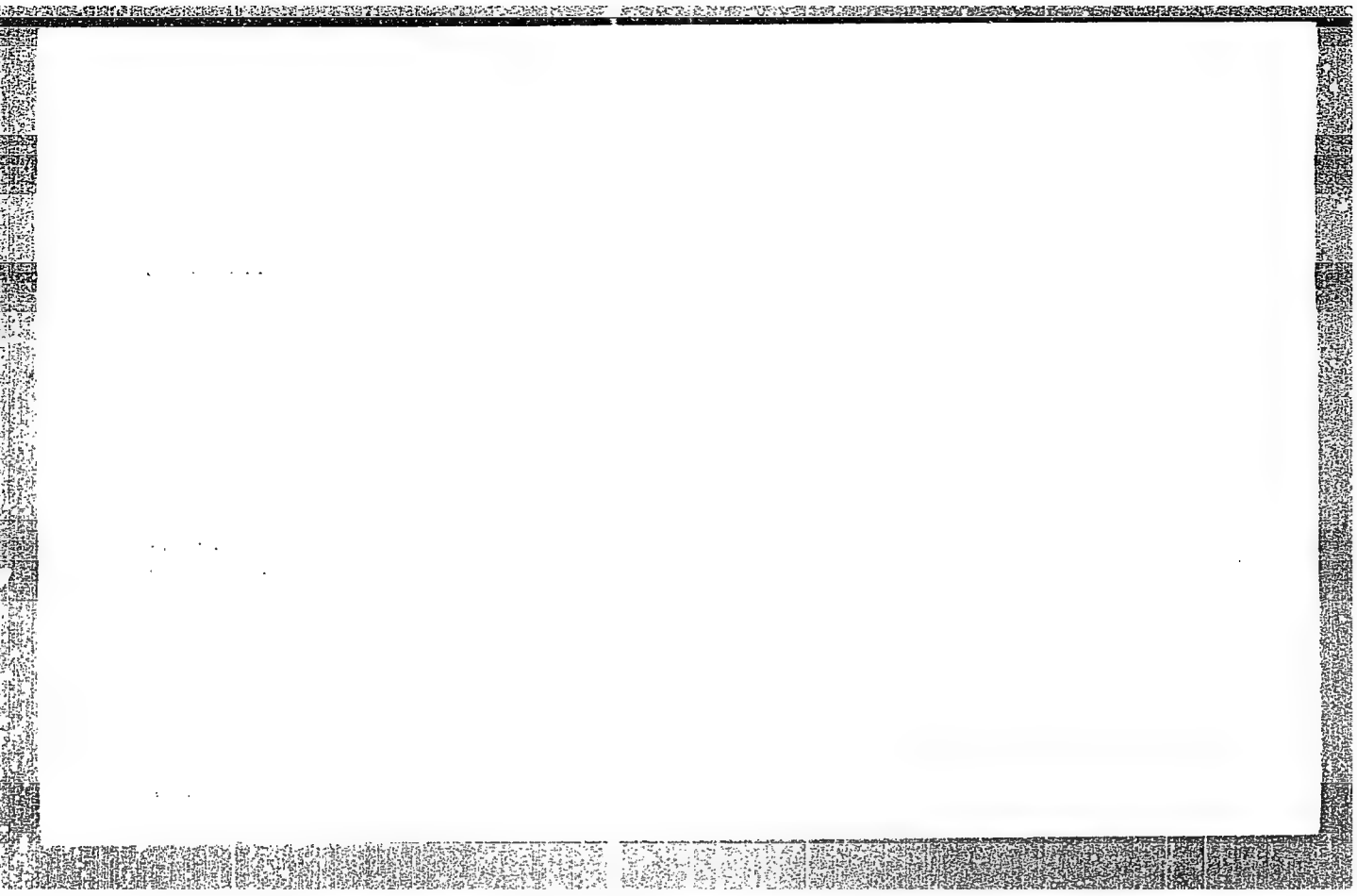
19

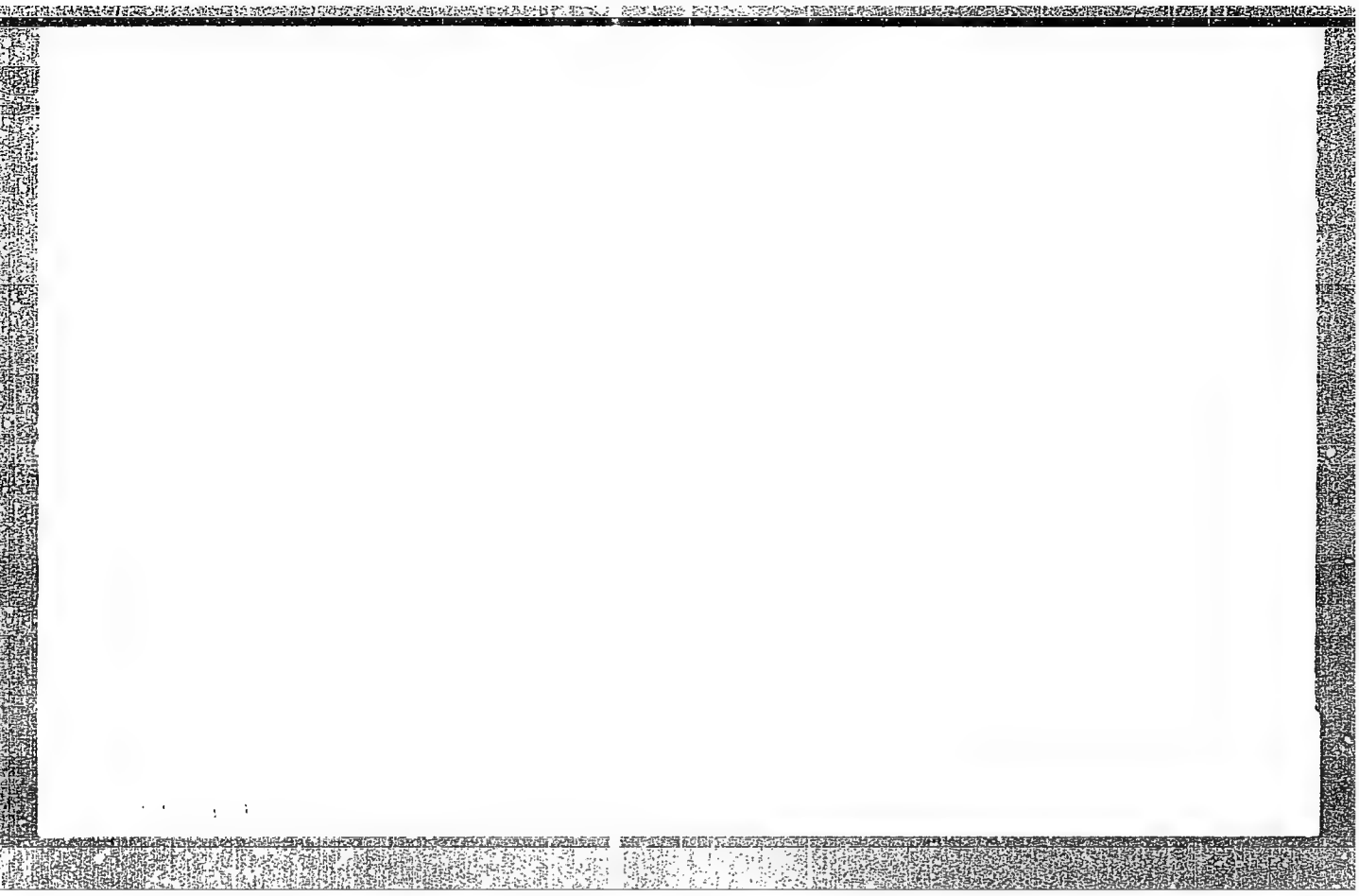
Residual tensions in glass and quartz. E. V. Tsinzerling. *Zapiski Vsesoyus. Mineral. Obshchestva* (Mem. Soc. Russe minéral.) 79, 223-4(1950).—A rapid heating of glass and quartz plates to 300°, or the application of a diamond point under load brings about fine cracks which show under crossed nicols at distinct spots the characteristic fanlike "torches" of anomalous birefringence. The changes observed in the light-interference "brushes" by rotating the microscope stage are described; they often resemble conoscopic interference figures of biaxial crystals, and indicate in quartz the trace of (1120) by the symmetry plane of the figure. The artificially applied residual tensions in quartz are identical with those observed around materially different inclusions; it is, however, remarkable that haloes of anomalous birefringence are absent around chlorite crystals, or only slightly indicated by faint light borders around the crystal edges. Cf. *C.A.* 43, 976e. W. Eitel



Investigation of the hardness and fragility of quartz. E. V. Tsinzerling. *Doklady Akad. Nauk S.S.S.R.* 60, 1013–6(1948).—The differences in the phys. behavior of colorless and naturally or artificially colored quartz crystals are very striking: the formation of twins through the inversions $\beta \rightarrow \alpha \rightarrow \beta$ is much more difficult in colored parts of the crystals, and the phys. properties are also different. The microhardness tester of Khrushchov (*C.A.* 41, 1187*h*) and Berkovich is used for the measurement of the mech. resistivity of colored and colorless parts of the same crystals. The diagonal diam. of the impression of the four-faced diamond pointer of this instrument gives a direct measure for the hardnesses at given points on the crystal surface. The data are always lower for colored parts than they are for the colorless ones. This behavior corresponds to Lemmlein's results (*Doklady Akad. Nauk S.S.S.R.* 56, No. 8 (1947)) that HF etches the colored crystal parts much easier than the colorless ones, e.g., on (0001) and (11$\bar{2}$0) of quartz crystals with a pronounced zonal structure or with sector subdivision. The fragility or brittleness of colored parts is also greater than in colorless fields. A measure for this fact is the no. of cracks in the crystal parts, and the rate of their formation under the action of a given load. A marked anisotropy of the crystals is also observed on (0001) and (11$\bar{2}$0). The fractures are usually parallel to the rhombohedron. The presence of many local defects in the disturbed lattice structure of the colored quartz in comparison with the more regular structure of the colorless or only weakly colored parts explains the observed differences. W. Eitel







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Mbr., Crystallography Institute, Acad. Sci., -1947-

"Twinning of Quartz on Multiple O(B Transformation," Dok. AN, 57, No. 4,1947

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Studying pressure figures on glass in penetrating polarized light. Trudy Inst.krist. no. 5, 1949.

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Morphology of twinnings during the $\beta \rightarrow \alpha$ inversion of quartz. B. V. Tsinzerling. *Trudy Inst. Kryst. Akad. Nauk S.S.S.R.* 7, 81-101(1952).—The crystallographic-structural laws that govern the $\alpha \rightleftarrows \beta$ inversion of quartz are expressed in the fact that the design of secondary twinnings is constantly reiterated as a function of the thermal treatment scheduled for the cryst. material. A systematic control of the twinning process is thus experimentally possible; the twinning always starts from the parts of the crystals that are locally cooled to the lowest temp. Nucleation is followed by the growth of the newly formed twins. If the quartz is heated above the inversion temp. the twinning goes steadily along with cooling down to 400° or even lower. It follows the fields under strain. Detailed designs are given after static expts. with quartz plates heated on a steatite support under exactly controlled thermal conditions. The practically important formation of cracks during this treatment is investigated in its effect on the twinning, and the aureoles brought about by strains around inclusions are demonstrated.

W. Eitel.

CH

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2. USSR (600)

4. Crystallography

7. Morphology of twin crystals obtained during β→α→β transformations of quartz. Trudy Inst.krist., no. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

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Mechanical twinning of quartz ("Certain volumetric defects of crystals." D.B. Gogoberidze. Reviewed by A.V. Shubnikov, E.V. TSinzerling.) Zap. Vses.min.ob-va 82 no.2:154 '53. (MLRA 6:6)

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